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EDITORIAL.

A FEW MORE VETERINARIANS.—One year has elapsed since we had to record the closing of the majority of the veterinary colleges on this continent, and to-day, with two exceptions (Boston and Philadelphia), American veterinary colleges have had their commencements. With what results? In New York we have 67 new graduates, 42 from the American Veterinary College and 19 from the New York College of Veterinary Surgeons; at the National Veterinary College, of Washington, we record 15 gentlemen that received their degree of D. V. S.; the Kansas City Veterinary College numbered for the classes of 1892-'94 and '93-'95, 16; the Chicago Veterinary College graduated 65, to which, if we add, say, 100 from the States that completed their studies at Montreal and Toronto, we obtain the round figure of over 250 new veterinarians who, we are justified to suppose, will hang their shingles in various parts of the country, without counting those from which we have not heard—perhaps 100 more. What more can be said in behalf of a change or a modification in the way of graduation, or, if not that, in placing a check upon this wholesale manufacturing. It does not seem possible that the adoption of the three-years' studies can be re-enforced from those of our schools, whose motto is "business" and not "profession," no matter what may have been the action of the United States Veterinary Medical Association, or

even that regulates the admission of members to some of our State or county associations. What then? On previous occasions, the subject had been somewhat considered by the recommendation of a National Board of Examiners, but this is not without serious objections, among which one of the principal is the unconstitutionality of such a board. But if this cannot be obtained by federal legislation, why could it not by State law? Already the question has been agitated, in some; in two States at least, bills have been introduced into legislatures asking the creation of such a board with power to grant only certificates of qualification to practice in those States to graduates holding a degree from a three-years' course. So far as we know, these bills have not yet become laws, but when we consider the tide which is now growing in relation to the requirements of veterinarians, we have no doubt as to their ultimate adoption. And then the number of graduates, if it is diminished in quantity, will certainly be of better quality, and we will then, and only then, be justified in boasting of a truly American veterinary profession, even if the education was obtained from schools other than those that we have in the United States.

NEW YORK STATE VETERINARY COLLEGE.—When nearly forty years have passed since the legislature of the State of New York recognized the importance of veterinary education in granting the first charter for the organization and establishment of a veterinary college in the Excelsior City, and after completely ignoring the efforts that have been made since, and which have proved so successful in the hands of some private undertakings in sowing the seeds from which rose the American veterinary profession of to-day, the legislators of the Empire State have awoke from their almost semi-centurial lethargy and have made a call upon the State financial treasury and appropriated \$50,000 to establish a State veterinary college at Cornell University, "for the purpose of constructing and equipping buildings suitable for such college upon the grounds of said university at Ithaca."

We are pleased at this action of the legislature; we sincerely send our compliments to our worthy colleague, Prof. Law; we cannot but feel proud of this proper step, which will tend to advance the study and teaching of veterinary medicine, which must necessarily be benefited by the prestige of such an excellent university as Cornell, and we regret the expression of erroneous remarks which were written in criticising the action of the legislature. But, while we could not consider that "there is just as much sense in the project of establishing a State veterinary college at Cornell as there would be in the establishment of a State college for corn doctors," it seems to us that this boon to Cornell University for *something to establish, to build, to equip*, is an evident injustice to the work done by others, which has produced fruits which are palpable, which has given the country the largest proportion of veterinarians who helped—who did, in fact,—execute the national work of stamping out contagious pleuro-pneumonia, in the United States, whose existence is not prospective but is visible by all; whose equipment is not to be gathered, but is as perfect and thorough as it can be made under the circumstances, and whose name probably does not sound as big as that of Cornell, but is nevertheless just as highly appreciated and has just as world-wide a reputation.

This legislative grant is the second that can be found, we believe, in behalf of a veterinary college. Pennsylvania some years ago gave several thousand dollars to the Veterinary Department of the University of that State, thus adding to the funds already received for that object. New York follows in giving a handsome sum to one of her well-known and most wealthy institutions. It is more than probable that other states will follow these two examples, and that before many years are gone other State veterinary schools will be established.

Let that day soon arrive if the progress in education, the improvements in opportunities to students, the elevation of our profession, and the standing it is entitled to, is to remain always the motto of those who will be at the head of the schools.

ORIGINAL ARTICLES.

CASTRATION.

By W. E. B. MILLER, D. V. S.

A paper read before the Pennsylvania State Veterinary Medical Association.

GENTLEMEN:—About ten days ago I received from your Corresponding Secretary, a programme of this meeting. On reading it over, I was surprised to find that I was put down at the head of the list of essayists, for a paper on Castration. It was the first intimation I had received that such was the case, or official notice that I was expected to prepare one for this meeting.

At the meeting held in Scranton, when I had the honor to be selected by our honorable president to read a paper on this subject presented by Dr. T. B. Rogers, I remarked that I would like very much to reply to some of the statements made by him, but would refrain from doing so, in his absence, out of courtesy (professionally only). I did not know that the remark would be so construed, as to commit myself to the preparation of a paper for this meeting. If, however, your president and secretary have so construed, I presume I must be bound by their decision.

Owing to the lack of time since intervening, I have been unable to prepare a paper entirely new, but will re-read one which I read before the Keystone Veterinary Medical Association, a little over a year ago; it having been somewhat revised and enlarged to suit the requirements of this occasion. It is not exactly what I would like to present before such an able and intelligent body of men as I see before me to-day, and who constitute the membership of this association, but it is facts gleaned from a long, extended practice, in this especial line, and I trust it may be at least interesting, if not instructive.

It will not be my purpose at this time, therefore, to advance any new theories, nor special methods for the performance of this, most common and, I think, the most useful of all the oper-

ations, the veterinarian, as a general rule, is called upon to perform, more especially is this true in the rural or country districts, or in localities where the breeding of animals is carried on to any great extent. I shall, however, endeavor to give you some practical points, obtained in a general way, during an experience of over thirty years, and shall also try to point out to you the many, and especially the most common complications, and their particular danger, as to the ratio of mortality.

It is unnecessary also to touch upon the anatomy or structure of the organs of generation, or those immediately related to the subject matter, that is too familiar to all of you, to require any reference to, or explanation of on my part, and I shall, therefore, proceed at once to the operation itself. Methods of preparation, complications, care, etc. There have been, and still are many methods of performing the operation, namely: Actual cautery, torsion, ligation, scraping the cords, distension and snapping off the spermatic cord (clamping, compressing the cords), and the *écraseur*. The first mentioned, the actual cautery, has been in existence in all parts of the country for many years, and still has some followers, who have not been educated up to the times, but, as it is an unnecessarily painful operation, I shall not dwell upon it except to mention that it is performed by placing hot firing irons upon and across the distended scrotum and burning through the membrane until the testicle is exposed, and then separating it from the attachment and severing the spermatic cord by the same operation or process. This necessarily makes a very severely burned wound, and as a consequence inflicts unnecessary pain.

The second, or torsion, consists in separating the membranes of the scrotal sac, exposing the testicles, and then with an instrument made expressly for the purpose, twisting the testicle upon itself until the cord is twisted off and bruised, so that hæmorrhage is usually stopped, this also has its disadvantages, in as much as so much of the spermatic cord left within the inguinal region is affected that it fails to relax, and scirrhus of the cords will most likely result. If not, there will be a large

amount of the bruised tissue to slough off and discharge from the wounds, thus necessarily prolonging the time of recovery or endangering the patient to blood-poison, from the detention of the broken down material or confined pus.

The third, ligation of the cords or of the whole scrotal sac, including the testicles, is in my opinion the most painful of all, this consists in tying a strong cord around the spermatic cords with its coverings, or around the whole scrotal sac. This is allowed to remain until all the sensations are destroyed and the testicles have lost their vitality, and death of the tissue confined occurs, when the entire body sloughs off. This method was followed by many operators (especially in the castration of sheep), but in late years has been almost entirely abandoned, owing to the extreme pain inflicted.

The next, or scraping of the cord, has many adherents and advocates at the present day, and is successfully employed in bulls and sheep.

This operation consists in exposing the testicles, and with a blunt instrument or dull knife, scrape the spermatic cord and its contents until it is severed, the scraping of the cord causes the blood to coagulate in the vessels from being bruised and hæmorrhage soon ceases; this method is very easily performed, and may be well considered, inasmuch as it is accomplished with very little unnecessary pain.

The next, or that of distention or breaking off the cords, is a very common method of operating at this time among the lower order of animals, such as bulls, rams, dogs, cats, etc., and in my opinion is the best and most desirable mode of operating, and is attended with fewer complications than any other; this method, however, does not seem to work well in stallions, as peritonitis almost invariably follows it. I think this is due to the fact that the stallion is endowed with more vascularity in those parts than other animals, and is, therefore, more susceptible to peritonitis. I have experimented with this method on several horses, and have nearly always had peritonitis to follow, while on the contrary, I do not know of ever having lost a bull, goat, sheep, or dog

castrated by this method, nor can I call to mind a single case wherein I had any symptom of peritonitis. I therefore prefer it to any other, and use it entirely at the present time on all the above referred to class of animals.

The next method referred to, or that of clamping or compression of the cords, is a method that has been popular for many years, and still has its adherents and advocates in nearly every section of the country. It is perhaps the most liberally practiced of any other method, its simplicity and, if properly performed, its safety, are strong arguments in its favor.

But the complications that are very liable to follow its use are such, that in my experience, I think it should give place to other and more modern methods.

The operation consists in placing wooden clamps over the spermatic cords and their membranes, and in allowing them to remain a sufficient length of time to destroy the vitality or life of the parts, and by pressure at first, form sufficient blood clots in the blood-vessels to prevent hæmorrhage. The clamps before being placed on the cord are usually covered over, or filled with a paste, in which has been placed corrosive sublimate one part, and red precipitate two parts, which is intended to act both as an antiseptic and caustic, and thus assist in the destruction of the parts enclosed within the clamps.

The danger following the clamps is, first: neglect to get them perfectly tight upon the cords, thus failing to stop the flow of blood. Second, the removal by the animal himself and consequent hæmorrhage. Third, the danger of the clamps getting within the wound in the scrotal sac, and thus as a natural consequence be very difficult to remove. And fourth, the danger of a secondary hæmorrhage following their removal at the proper time, generally about twenty-four hours after the operation. The principal complications following their use is scirrhus of the cord, produced by the distention of the cord for such a length of time that the same fails to retract when the clamps are removed and the edges of the wound unite to the severed

end in healing, or heal up around the end of the cord, as is more generally the case, thus retaining it within its grasp until recovery has taken place, with the end of the cord still fastened down to the scrotum.

I operated by this method for many years, and this was always my greatest complication. Since I abandoned their use entirely, except in cases of hernias, I have had very few, if any, scirrhus cords, but as I have operated on many thousands of bulls, sheep, calves, pigs, etc., by other methods, and seldom, if ever, had scirrhus of the cords, I cannot but attribute their presence to a very large extent from the use of clamps.

The last method to which I will at this time refer, is a combination system of compression of the cords and the extirpation of the testicles with the *écraseur*. I have used this method exclusively (except in cases of hernias) for the last fifteen years, and have had better results and more satisfaction from its use than any other method I ever employed. It is easy of appliance, rapid in performance, and comparatively perfectly safe in results.

The operation consists in separating the testes from their attachments excepting the spermatic cords, around which place the compressor or House clamp, and squeeze or compress the cords as tight as possible, this operation will bruise the blood-vessels and cause the formation of blood clots in the same. After a few seconds, sever the cords with the *écraseur* and remove the testes, allowing about one inch to intervene between the point of severance and the place whereon the compress is placed, this space will contain a second bruise or blood-clot formation, which acts as a barrier to any danger from the removal of the first or upper clamp, and thus precludes the possibility of any extensive hæmorrhage. Remove the clamp and the operation is completed, the cords will at once retract and re-enter the inguinal canals in nearly all cases, especially if the animal is standing. The edges of the wounds in the scrotum are left open and free, and the danger of the scirrhus is avoided. If the ends of the cord fail to return, they should be pushed up.

There are many instruments in use at this time with which to perform this operation, for my own part I much prefer the "House clamp" and "Miles écraseur" as they are called, having used them so long, I suppose I am prejudiced in their favor.

Many methods are employed for the purpose of securing the animals for the operation. The English hobbles, the side lines, the back strap, and in fact, a dozen other kinds of hobbles; each having its adherents and advocates. I have used them all, and I shall not question their opinions, or give any reasons why they should not be used in this operation, but I shall refer to one method of securing an animal that I think possesses many advantages over any other that I ever employed (particularly, one namely), that is it exposes the whole inguinal region, and places the hind feet and limbs of the animal in such a position, that there is no interference whatever with the operator, and when used for the reduction of a hernia, the removal of a scirrhous cord or the castration of a ridgling is preferable to any I have ever used. I think also, it is least likely to be accompanied with complications of the breaking of the back or limbs, while casting or keeping the animal in confinement.

In ridgling castration it is an indispensable method. It consists of a combination of several kinds of hobbles, namely: a strap around the neck to which the rope is attached, as with the side line, the back-strap with rings underneath it, through which the rope passes, and four foot or small hobbles, one on each foot, and about sixty feet of rope. I have cast animals by this method for twenty-five years or more, and never had but two accidents in that time that I could claim were the fault of casting, one was a broken back, another was a broken femur, a third accident a ruptured blood-vessel, as a result of casting, would have occurred with any kind of hobbles. I shall refer to it later on.

I have also had other accidents happen from casting horses, but none when I had used the hobbles referred to above. I have no doubt many of you are familiar with this manner of

casting, and if so, you will know its value where you are compelled to throw your horse, and I will not weary your patience longer on that subject.

It will not be necessary either to dwell long upon the classes of animals we are called upon to castrate.

Those of you who live in country districts, probably have to do with bulls, rams, pigs and the smaller animals, as well as with the colts, if you make a practice of doing that kind of work, but here in the city and immediate vicinity, we have but little of that class of work, and have to operate on stallions chiefly, and it is with this idea in view that I address you.

There may be many complications attending your practice that you will be sure to find if you have not already found them; the operation will require careful and considerate attention, and theory as well as experience will be required, in order that you may be successful in its performance. One very serious complication that I sometimes meet with, is hernia, either on one or both sides, and as it is a serious condition, even when known to exist, it becomes still more so when not diagnosed. I shall refer to two of them particularly later on.

It is customary with me to always ask the person who owns a colt if he raised him, and if he ever discovered any enlargements of the scrotum when he was foaled, or at any time thereafter? If not, I always make an examination if possible, and even then you may not be able to discover its presence, if however, you know of its existence, always guard against the danger of protrusion, and cast the animal. Before beginning the operation place him upon his back and expose the inguinal region as much as possible by bracing the legs apart; reduce the hernia, if possible, before opening the scrotal sac, after which withdraw the testicle with the dartos, tunica, erythroïda, and the cremaster muscle and serous membranes (still intact and unopened), covering it, press down upon it as much as possible, and place the clamp firmly over and as high upon the cord as you possibly can, so as to entirely close the inguinal canal, this is called the covered operation. You can then remove the tes-

ticle, cutting it some distance below the clamps, or as some operators do allow it to slough off. This I do not do, believing it better to remove it at once, the clamp, however, must be allowed to remain until it sloughs off, when an adhesive inflammation will have closed up the whole of the inguinal canal to the internal ring and the hernia with it. Care must now be taken with the diet, and the animal kept quiet for a few days.

Another complication often met with, is the adhesion of the testes, this is readily overcome by dissecting out the cord and separating it above the point of adhesion; then dissecting the testicle with the adhered parts attached, and removing the whole mass together. This operation is very similar to that performed in the removal of scirrhus cords.

Having thus hastily passed over the principal and most common operations, I now come to one which a few years ago was but little practiced, but which is now of common occurrence, but very difficult to perform, and requires both judgment and skill. I refer to the castration of cryptorchids, commonly called ridglings through the inguinal regions. It has been done often through the flanks, as I have done it myself several times, but generally resulted fatally. By the term ridgling, I mean only that class of stallions in which the testicle is in an undeveloped condition within the abdominal cavity.

(To be Continued)

TYPHOID FEVER; OR, CONTAGIOUS INFLUENZA IN THE HORSE.

BY PROF. W. L. ZUILL, M.D., D.V.S.

(Continued from page 13)

DIAGNOSIS.—It is not a difficult matter to make a diagnosis of typhoid fever in the horse notwithstanding the different forms it assumes. There is always the same general combination of characteristic phenomena. From the very onset of the disease the debility, stupefaction and œdema make typhoid fever of the

horse differ from any other of the inflammatory diseases which affect this animal.

At one time, however, this general condition was confounded with anthracoid fever to such an extent that writers have maintained that it was only a slightly different form of this disease. But the color of the mucous membranes is by no means that of anthrax fever, in which the violet color of the gums is not seen, the blood of typhoid fever having properties which are the very opposite of those seen in anthrax, which does not coagulate or oxidize on exposure to air.

Anthracoid fever always begins by a violent excitement of the animal, while in typhoid there is always a true stupefaction from the very beginning of the disease. Anthrax fever is easily produced in the rabbit and guinea-pig by inoculation, while the blood of typhoid gives no results. In all cases there are sure and simple means of distinguishing these two diseases from each other, so that a correct diagnosis may be made at the first visit, and almost all practitioners do so when they see the closed and tearful eyes of a sick animal. It is therefore only necessary to make a diagnosis of the localization of the disease. When, after two or three days localization is found upon the intestine, abdominal pains are noticed, the dung, which was at first hard, soon becomes thin and watery.

When the disease is located upon the respiratory organs, the early symptoms are somewhat obscure; after two or three days there is a slight dullness on one side of the chest, then all doubt is expelled. As regards other localizations, they are still more easily recognized, when there is congestion of nerve centers. The animals cannot support themselves, and fall to the ground; when there is founder there is then the characteristic symptoms of this disease. It is important to recognize the complication, for this fact must be taken into consideration in the treatment.

PROGNOSIS.—The prognosis of influenza, or typhoid fever, is serious, from the fact that it is contagious in its character, and tends to spread among those animals confined in those

stables into which it has been introduced; it is also serious from a pecuniary standpoint, as the inability of a number of horses to work results in serious loss to the community. In addition to these facts, a large number of horses die of this disease especially in the beginning of the outbreak; these considerations, therefore, make the disease a very serious one. In isolated cases the disease is not so serious, but is more to be feared in young than in well-matured horses. Horses that are idle, or sale horses, suffer much more from this disease than do horses regularly at work.

The prognosis will also depend largely upon the localization of the disease. If it localizes itself upon the digestive organs the animal is likely to make a good recovery; in rare instances, the patient may die from exhaustion when there is a persistent diarrhœa.

Should the disease become localized upon the respiratory organs, it is then much more serious, under any conditions, and is a very common localization in young, green, vigorous sale horses. Other complications are more or less serious, according to the organ compromised; congestion of any portion of the nervous system may soon have a fatal termination, due to interference with the function of these centers, and its influence upon respiration and circulation.

When influenza, or typhoid fever, is complicated with founder the prognosis is a serious one; it is a complication not often met with, and which will sometimes yield readily to energetic treatment, but not infrequently several months are required for complete convalescence. I had two instances of this among some green brewery stock last Spring (1893); *these horses suffered from the founder complication for over five months after all other symptoms of the disease had disappeared.*

The prognosis in other complications varies with the localization. Anasarca of the head is likely to interfere with respiration. Oedematous infiltration of the glottis terminates speedily in death. These anasarcous complications at rare intervals will take on the form of *acute suppurative erysipelatous disease*. One

case of this kind in my practice in May, '93, the brief history of which is as follows: Among the horses purchased for a brewing firm was a thoroughbred shire mare; three or four days after the purchase the leg of this animal was clipped, and a day or two after she developed typhoid fever, it being prevalent in the stable at the time. The disease seemed to expend its entire force upon the extremities, all four of which swelled to enormous proportions, were hot and painful, diffused suppuration of the cellular connective tissue developed, and the animal died of pyæmic infection in about ten days after. It would appear that the removal of a heavy coat of hair, early in the Spring, and just at the onset of the disease, caused such irritation of the parts as to cause a localization or concentration of the disease at this point.

In summing up the prognosis, therefore, it will be seen that there is abundant reason for considering this disease a very serious one; even much more serious than certain other contagious diseases which are under legal control, such as glanders and farcy. My experience with this disease leads me to think that a death rate of about 6 or 8 per cent. is to be expected, although a few years ago it was placed as high as 20 per cent.

ANATOMICAL CHANGES.—There is such a remarkable variation in the anatomical changes that they have frequently been confounded one with the other, and which for a long time tended to obscure the true character of the disease, and prevented the distinct recognition of the primary changes from those which were secondary. I shall first endeavor to point out those changes which are essential, and later will consider those which are secondary. We will first notice that the blood has undergone special and peculiar changes, which will be noticed before any other change or localization can be recognized. The disease has been described as an enteritis, or a pneumonia, due to these changes in the blood, and it was for this reason that the term typhohæmia was applied to it. In order to determine the nature of the lesions, it was necessary to keep a careful record of the conditions found in post-mortem

examinations, and to carefully separate the post-mortem from the ante-mortem changes. In those cases in which the disease has been described as the *rapid course*, the blood presents all the characteristics of asphyxia—it is black, non-coagulated, and often loaded with fat; this form of the disease is most frequently seen in very fat and plethoric horses.

Post-mortem changes are almost always present which may mislead the examiner unless he bears in mind the fact that it is the early summer months (as it is at this season that the disease mostly prevails) and that the examination has been somewhat delayed, as almost invariably happens. These post-mortem changes are even more noticeable if the animal has been confined in a close, hot place; the blood is then in an advanced state of putrid fermentation; this change is due to the fact that the animals die rapidly from asphyxia, associated with violent struggles, which conditions favor rapid disintegration of the blood. In these cases the blood is found black, non-coagulable, having a strong ammoniacal odor, and through the action of the ammonia upon the coloring matter of the blood there is found an ammoniacal compound, which stains the walls of the blood-vessels a deep red. Examination of this blood under the microscope shows many disintegrated and decolorized red blood corpuscles and putrefactive bacteria in large numbers; these have frequently been mistaken by careless or inexperienced observers as being special bacteriological elements, or have considered them as anthracoid vibriones. In this blood there has also been found hæmatoidal crystals, which have also been considered by some writers as microbes, but these are only post-mortem changes. In order to determine exactly what changes have taken place in the blood, it must be examined before death, or immediately after, before it has undergone the slightest post-mortem change. At this time it will be found to be more fibrinous, and to be richer in excrementitious matter, such as creatin, creatine, and especially urea. This coincides with, and would be indicated by the intense fever which is noticed at the onset of the disease prior to any local alteration. It is reason-

able to suppose that this extreme fever is due to the rapid combustion of tissue, and which is represented in the blood by the products of tissue waste. Why this rapid disintegration of tissue takes place I am not able to explain, nor have I been able to find an explanation by any writer. It is possible that at some future time it may be found to be due to as yet an undiscovered microbe (?). When the disease has progressed for some little time, the white blood corpuscles will be found in increased numbers, but which is relative only, due to the destructive changes going on among the red cells as already noticed. It will be readily noticed that when making a post-mortem examination immediately after death the blood is black and not coagulated; it collects in pools on the ground; by its contact with the air it absorbs oxygen and coagulates, thereby showing that it is entirely different from the blood of anthrax, or septic infection.

A genuine septic infection, however, is always possible when there has been a gangrenous pneumonia, or sloughs on any portion of the body which may easily become the seat of septic invasion; then septic alteration of the blood will be found, which, when exposed to the air, remains black and non-coagulated, the surface covered with oil drops and large numbers of septic vibriones; it is due to this fact that so many writers have continued to associate this disease with anthrax and septicæmia. Other local alterations of the disease vary as much as does the external symptomatology. An intense intestinal congestion is sometimes found; it is not so serious or so important, from a practical standpoint, as is the essential congestion (enteritis), but nevertheless is sufficiently well marked. There are cases in which the patient will succumb to this condition, which is the first stage in the evolution of enteritis, in from three to five days, and before sufficient time has intervened to permit the development of diarrhœa. The fecal contents of the gut is hard, and covered with a brownish glaze, the large intestine filled with food material. The mucous membrane is red, injected and decidedly thickened; the sub-peritoneal connective tissue,

including the intra-muscular connective tissue, is markedly infiltrated with an amber-colored serous transudate. In fact, this leakage into the connective tissue is found wherever a local lesion exists. As a general rule it will be found that localization upon the digestive organs does not have a speedy fatal termination, but rather the reverse; when these animals have lived for some time the intestinal tract is found almost entirely empty, containing only a thick yellowish liquid, consisting of hyper-secreted mucus and transuded serum. Traces of inflammation may sometimes be found on the mucous membrane of the stomach, but it is in the small intestine that the most decided changes are seen, its mucous membrane presenting the same changes as were seen in the large intestine—it is injected, thickened and infiltrated with serum. In addition to the serous infiltration, it is very plainly evident that *Peyers patches* are considerably increased in every direction, are elevated above the free surface of the mucous membrane, and not infrequently is it found that this surface has been denuded of its epithelium, which causes it to represent in a manner true ulceration, but in no respect have I been able to recognize any similarity between this and the ulceration of true typhoid fever of man. Out of the whole number of post-mortem examinations in this disease made by me in the last ten years, I have not once found a true ulceration, and my conclusions, therefore, lead me to believe that it does not exist in typhoid fever in the horse. The denudation of *Peyers patches* of its epithelium appears to be due to its serous infiltration, which not only permeates the whole connective tissue of the intestine, but accumulates between its two mesenteric layers, which are often greatly distended by it. The mesenteric lymph ganglions also take part in this general infiltration, they are congested, swollen and infiltrated. Throughout the whole course of the disease there is manifest a general tendency to stagnation of the blood, noticed even in the very earliest stages of the disease, if venesection is performed, by the slobbery character of the bleeding; it is this fact that explains the extensive serous transudation found in all the local

lesions, and more or less general throughout the body. These are the lesions usually found in post-mortem examinations when the local lesion, or rather localization of the disease, is on the digestive tract. In 1872, in a communication to the *Soc. Cent. de Med. Vet.*, Prof. Trasbot pointed out that in some very rare instances *small, gangrenous, superficial sloughs* were found on the surface of the intestinal mucous membrane; he found that these sloughs were confined to the superficial layers of the mucous membrane, that there were some tissues found in the small intestine, but were not frequent in the large colon. As he says, these sloughs may assume the appearance of genuine ulceration, but were entirely different from the ulceration of typhoid fever in man. When the lungs become the seat of the localization the complication is either pneumonia or pleurisy, sometimes both. A second invasion of the lung tissue in these cases is frequently seen, the animals then die rapidly of asphyxia, which the post-mortem will show, while at the same time gangrenous complications may be found. Prof. Trasbot has described this lesion as an œdematous pneumonia, and his description of these pathological changes are certainly far more lucid and comprehensive than that of any other writer of my acquaintance, and from which we obtain these facts:

“Ordinarily the pneumonia is more or less restricted, its outlines not horizontally marked as in free inflammation. At the lower part there is almost always some lesions in one of the lungs, sometimes in both, for exclusive localization in one lung is a more rare condition than in sporadic pneumonia. In typhoid fever there is found side by side veins of tissue obstructed by inflammatory transudation, and portion which have remained permeable to air. When the lungs are cut, a very marked infiltration is found in places where the pneumonia did not yet exist. There, as everywhere else, is a stagnation of blood, bringing on diffusion of the serum in the peripheric tissues, and especially in the connective tissue spaces, which enlarge in volume. There is nevertheless genuine pneumonia with exudation into the interior of the acini. At the points where the inflammation is

“localized, the lungs are dense, compact, friable, tearing easily, “and having a granular fracture. On a smooth cut a large “quantity of serum flows. There is also the red coloration with “small bluish tints. By a microscopic examination the evolution “of the lesion can be followed, and the completely hepatized “parts studied. Besides the infiltration of the partitions we “found in the vesicles the changes of pneumonia; that is to say, “an amorphous exudation containing globules of pus. These “capillaries are seen greatly distended, and around them a large “quantity of liquid, forming in mass a yellowish clot interposed “between anatomical structures. On the periphery the anatomical interspaces are markedly distended by this granulous mass. “Pleurisy may be added to the pneumonia or exist alone; in “either case the changes developed upon the pleura, with more “or less extension, does not essentially differ from those of an “ordinary inflammation of this membrane. Finally, there is in “the lungs stagnation of blood with a large serous infiltration. “Sometimes, although the lesions of pneumonia may be but “slight, death speedily ensues, pulmonary inflammation having “led to gangrene. This seems difficult to explain. Small, gangrenous, slate-colored, grayish foci are often found, having “a putrid and infectious odor. In this case septicæmia has complicated the typhoid fever, because the mortified lungs putrefy, “and there is speedy reabsorption of the septic elements and “putrid infection.”

When there are other localizations, the changes found upon post-mortem examination vary with the complication. I have never seen a fatal termination in those cases in which the podophyllous structure was involved. These cases of this complication in my practice made good recoveries after several months of idleness, without any noticeable changes in the structure of the hoof; therefore, a post-mortem examination would not have shown any thing more than a congestion of the podophyllous structure, with perhaps capillary hæmorrhage on the surface.

When there is localization upon the brain and spinal cord,

death is usually rapid, as in the solitary case coming under my notice; here there was a well-marked congestion of the meninges with a large quantity of serum in the pia-mater, producing a great deal of pressure, which was probably the immediate cause of death; the arachnoidal spaces were filled with transudate, but no microscopical evidence of lesion in the substance of the brain proper. The congestion and transudation is as easily explained in this case as in the lesions of other parts of the body, being entirely due to stagnation of the blood current, a prominent feature of the disease.

Other rare complications of this disease are lesions which occur in the eye, all of which are evidently due to impaired circulation. The first manifestation in this organ is seen in the sub-conjunctival connective tissue, which becomes infiltrated with serum of a yellow color, intermixed with a greenish tinge, indicating a disturbance of the liver; sometimes a sudden transudation of serum, or coagulable lymph, takes place into the anterior chamber of the eye, producing an absolute blindness, which will continue for 15 or 18 days, but reabsorption is not complete until 30 or 35 days. Should the lesion be more forcibly concentrated on this organ, then, as above described, there will occur a veritable hæmorrhage into it, due to the rupture of a capillary in the ciliary plexus. These conditions occur principally in the convalescing period, after all external manifestation of the disease has passed away, and perhaps after the patient has been discharged as cured. My experience with these complications is limited to one example of plastic iritis in an animal owned by one of our most prominent physicians, Dr. E. L. Dunn, and one example of hæmorrhagic iritis in an animal owned by a wealthy sugar refiner. In each case one of our noted specialists, Prof. Earlan, was in consultation, and appeared to be extremely interested. These cases made a good recovery in from 28 to 30 days. M. Decroix has described a case of instantaneous and complete amaurosis, a lesion quite as easily explained as either of the others, as being due to an infiltration, or hæmorrhage, into the retina.

A complication which is sometimes seen is a general dropsical infiltration into all the depending parts, the head, extremities, belly, etc.; these will sometimes reach enormous proportions, and as ecchymotic spots appear in the conjunctiva, Schneiderian mucous membrane, and other parts, care must be taken not to confound it with purpura hæmorrhagica.

(To be Continued.)

ODONTOME IN A YOUNG FOAL.

By DR. W. L. WILLIAMS, Montana.

In a former paper* of some length we had occasion to cite a considerable number of cases of odontomes of the horse, representing nearly all variations in aberrations of the tooth follicle, all of which cases, barring one, had been developed in animals varying in age from a little less than a year to about 6 years of age. In the present case the age of the foal at time when the disease was first noted is, so far as our observation is concerned, or cases noted by other writers, somewhat unusual.

The subject was a full-blood French draft horse foal of unusual size and quality, born May 1st, 1893, property of S. N. K., Normal, Ill.

The dam was a profuse milker, and rearing the foal being her exclusive duty, it made a very rapid growth and was in excellent general health.

The foal continued well up to August 1st of the same year, when the owner noted some difficulty in breathing during exertion, which was at first attributed to strangles.

The dyspnœa rapidly increased until August 14th, when the foal, accompanied by the dam, was presented for examination and treatment.

The foal was yet in good condition and general health. The dyspnœa had become so pronounced that the breathing

* "A Clinical Study of Odontomes."—AMERICAN VETERINARY REVIEW. XV. 1.

could be readily heard more than a hundred feet away when foal was at rest.

The left side of face was greatly bulged, projecting fully one inch farther outward from septum nasi than did the opposite side, the bulging being most exalted along the zygomatic ridge well back in the malar bone. The left air passage was wholly occluded, respiration being carried on through the right nostril and, in a measure, inspiration through the mouth. The right facial region exhibited normal resonance, while the occluded left side gave a *very marked increased resonance*. In the article cited* we casually noted that in some cases of odontomes abnormal resonance of the affected part happened in some cases. A further study of the matter leads to the conclusion that, so soon as a follicular cyst or composite odontome acquires a considerable volume within the facial sinuses and encroaches upon the communicating foramen between sinuses and air passages, and before the cyst becomes broken down by suppurative process, the imprisoned residue of air within the invaded sinuses is augmented in volume, and markedly compressed by small additions from the air passages, the return to which is prevented, thus producing increased resonance on the affected side of the face. This augmented resonance is in direct contradiction to the recorded observations of our writers on veterinary surgery who hold that diseased facial sinuses show decreased resonance, a rule which has at times led us to trephine the wrong side of the face in cases of this kind.

There was no discharge from the nose, and no odor. We at once diagnosed a follicular cyst, and gave a favorable prognosis.

We trephined the face at about the union of zygomatic and maxillary bones in or a little inferior to the zygomatic ridge, and upon removing the excised bone found the sinus free from pus or other liquid, and no apparently diseased tissue in sight. Directly inwards, however, and separated from the facial bone by a distance of half an inch, an apparently healthy, smooth,

* "A Clinical Study of Odontomes."—AMERICAN VETERINARY REVIEW. XV. I.

yielding wall prevented further ingress. Thrusting a finger through this wall, about $1\frac{1}{2}$ pints of a pale reddish-yellow fluid gushed out, which at once relieved the dyspnœa. The cyst wall, corresponding in general shape to the walls of the maxillary sinus devoid of all partitions (these having been absorbed from pressure), was attached at the inferior part only, at about the position of the fifth molar follicle. The cyst was drawn away in pieces by means of dressing forceps, the operation being accompanied by profuse hæmorrhage.

At the most dependent or anterior portion of the sinus (which had been much extended beyond the normal size and position by the pressure), a free opening was made into the air passage into which a good sized aseptic pledget of cotton was firmly pushed from the sinus. The sinus was then filled with cotton saturated with carbolized oil, with powdered iodoform over surface of pledgets. After 24 hours the dressing was removed, the parts scrupulously washed and the dressing repeated. After 48 hours the plugging of sinus and external wound was discontinued, the tampon in opening between sinus and nostril being continued two or three days longer to avoid adhesion. Aside from tampon, the dressing consisted of powdered iodoform mixed with about equal bulk of powdered starch (by which the iodoform is more readily finely divided and more equally applied), and applied to sinus by means of a small powder bellows.

Within 5 or 6 days it was seen that the iodoform caused large hard incrustations to form within the sinuses, and it was replaced with carbolized oil, the openings, both facial and between sinuses and nostril, being left free. All secretions were discharged through nostril, but at no time were these of considerable amount.

After about 10 days, while all was going along as favorably as was at all possible, the foal contracted strangles which affected the progress of the case unfavorably. Submaxillary abscesses formed and discharged freely, the disease running a typical and reasonably severe course.

At 30 days after beginning of treatment the strangles had subsided, bare traces remaining, while the effects of the odontome had almost wholly disappeared. The bulging of face had almost completely vanished, discharge from sinus had ceased, the trephine opening had closed and the foal left the infirmary in excellent general health and in better flesh than at the beginning of treatment. The recovery is apparently permanent and complete, leaving no noticeable unsoundness or blemish.

The cyst wall, upon microscopical examination, presented on its outer side an appearance identical with the lining membrane of sinus, while inside it was lined with a firm, thin opaque white corrugated membrane. Its thickness varied, but generally was about 1-8 and 3-16 inches in diameter, soft and flexible at most parts but at others somewhat cartilaginous, and in places exhibited a hardening, indicating some movement toward the formation of dental tissue.

MODERN ADVANCES IN SCIENTIFIC SURGERY.

By L. A. THOMAS, D.V.S., Atlantic, Ia.

A Paper Read before the Iowa State Veterinary Medical Association.

During the past few years a complete reformation has been gradually taking place in the science of surgery; conditions and methods handed down from generation to generation have become obsolete; many which but ten years ago were advocated as necessary to the maintenance or restoration of health have been completely discarded from the annals of modern surgery, and are now looked upon as injurious or detrimental to successful surgical interference.

We have arrived at one of those epochs in the history of veterinary surgery from which a departure is taken, either in relation to its practice generally, or in the development of some special department. Among the most important of these epochs, so far as the general improvement in veterinary surgery is concerned, are those marked by the appreciation of the rules

of scientific hygiene and the methodical employment of antiseptics in the management of wounds; the treatment of which, whether accidental or inflicted with the surgeon's knife, has been rendered much more successful since the advent of antiseptis.

Many of the details of the antiseptic method may be varied in the course of time, and by the introduction of new chemical agents, but the grand principle which underlies it, and upon which the whole superstructure of its details is built, will remain intact and unchangeable.

It is not my intention to enter into an exhaustive discussion upon the relative value of one or another of the numerous antiseptic agents now in use, as you are doubtless familiar with them; but we may here glance at the fundamental principles calling for antiseptic procedure.

In the first place, we should remember that the decomposition of fluids in wounds is directly dependent upon impregnation with organic matter floating in the air and thence deposited, or in other ways conveyed in them, fermentative or putrefactive changes being thus at once set up in the fluids of the wound; these local actions are capable of producing general septic infection of the fluids of the body.

The active agents of decomposition are the micro-organisms, which will develop at once their disintegrating activity as the conditions favorable to their development (moisture and a certain temperature) are present. An accidental or surgical wound presents conditions eminently favorable for the development of the fungi in question—the oozing blood and lymph, the bruised and dead cells of the various exposed tissues, severed from their natural connections, furnish the moist pabulum of a proper temperature. The myriads of particles of filth or dust filling the air in all inhabited localities contain, according to indubitable evidence, a very large proportion of spores falling upon the wound and its secretions; these promptly develop into fungi, and at once set up a fermentative process known as decomposition. The products of this fermentation, more or

less highly poisonons, promptly sets up local changes in the shape of inflammation, and cause systemic trouble—that is, septic fever.

It is further necessary for us to know that in septic process of a wound, not only the ptomaines are absorbed by the lymphatics, but that often an invasion of the living tissues by the fungi will take place, and that the lymphatics and veins will also serve as channels for the importation of dangerous quantities of fungi into the circulation. Secondary deposits will then easily occur.

It is this doctrine that has revolutionized the practice of modern surgery; the details by which it is carried out are necessarily changeable, but the principle itself is immutable, for it is based upon direct experimental observation.

Realizing the foregoing conditions, all surgical interference, no matter how trivial a nature, should be performed under strict antiseptic precautions. Admittedly in veterinary practice, there are many almost insurmountable difficulties, not the least being the habitations of patients. In many respects these may be overcome or reduced to a minimum, the all-important factors being cleanliness, good drainage and ventilation; of which the surgeon should assure himself by personal examination. To solicit discussion on this topic, rather than with the view of routine practicability, the following outline of the minutia of an antiseptic operation may be of interest; trusting that we may thereby appreciate the fact that asepsis is not an impossibility in veterinary practice, and that many of the more important items may be easily carried out with the expenditure of a little care and time.

All instruments should be placed in a steam sterilizer and steamed for at least half an hour, then dried with a clean cloth and rolled in a linen wrapper, made for the purpose, and previously sterilized and dried. The instruments are then ready for use at any moment. In the absence of a sterilizer, boiling may be substituted. The silk sutures should be rolled upon glass spools or tubing of convenient size, and boiled in a 5 per

cent. solution of carbolic acid for half an hour, then in plain sterilized water for fifteen or twenty minutes, after which they should be placed in a small sterilized glass jar having a screw top, and covered with 95 per cent. alcohol. Rubber drainage tubes, when required, should be prepared in the same manner. About five yards of cheese cloth should be procured and boiled in a like manner to the silk sutures, after which it may be wrung out and dried in an oven, packed in a sterilized fruit jar, and the top screwed on tightly.

The use of cat-gut sutures is not satisfactory, as they can seldom be made aseptic without detracting from their strength. Indeed, there is no call for them, for if the silk sutures are properly prepared, they will be rendered non-irritant and become encystic. Silk-worm gut is often useful, being unabsorbable, and readily rendered aseptic by immersion in 95 per cent. alcohol for a few days, in which condition it should always be kept. The actual cost of these preparations need not exceed fifty cents, and about an hour and a half leisure time, when sufficient material may be prepared for a large number of operations.

When an operation is to take place, a sufficient amount of water should be boiled and strained through a piece of the prepared gauze, and allowed to cool, ready for making the required solution and washing.

If the animal is to be cast for the operation, a place should be selected as free from dust as possible, the bed prepared of fresh green straw, freely sprinkled with a 5 per cent. solution of carbolic acid, or preferably, covered by a canvas stack sheet, saturated with the same solution. After the patient is secured, the anæsthetic may be administered, the parts to be operated upon and surrounding surface should be thoroughly scrubbed with etherial soap and water, then shaved and washed with ether. A fountain syringe, containing a 2 per cent. solution of carbolic acid, or bichloride of mercury (1 to 5000), should be situated so that a continuous stream may play over the seat of operation.

These preparations having been made, the operator and his

assistant should thoroughly scrub their hands, and invest themselves in a clean rubber or cloth apron before proceeding. All instruments required should be placed in a tray, or clean basin, and covered with 3 per cent. solution carbolic acid; another basin should contain sterilized gauze cut in convenient sizes for sponging; a third, containing sterilized water, should be within reach of the operator for occasionally rinsing his hands.

Before the wound is closed, all hæmorrhage should be controlled, blood clots removed, and the surface sponged dry; the edges of the wound brought in direct apposition, and the sutures tied sufficiently tight to maintain the apposition, but no tighter.

The external surface should then be dusted over with iodoform or boracic acid, upon which should be placed several thicknesses of gauze, followed by a layer of absorbent cotton, all of which should be kept in place by a rubber bandage. Should a bandage be inconvenient, strips of adhesive plaster, extending four or five inches on either side, may be used to maintain the dressing in place. The dressings should remain undisturbed for a week, provided no fetid odor is detected. Should there be escaping serum from the wound, another layer of absorbent cotton should be applied over the old one to prevent germs from coming in contact with the serum.

For several years I have followed almost precisely this line of treatment, and have been much gratified with the results obtained. I would therefore say to those who are inclined to be somewhat sceptical, or those who have not given the subject much thought, that you have only to test it to be satisfied. But if you should not succeed the first time, do not declare the method a failure, as the failure could only have been due to neglect on your part of one or more of the important features.

PARTURIENT APOPLEXY.

BY F. E. PIERCE, D.V.S., Oakland, Cal.

A Paper Read before the California State Veterinary Medical Association.

While nearly all of the papers that have been read at our meetings of late have been on some contagious or infectious disease, I would take up a more common subject; one we all meet with very often in our practice, and one which gives us as much trouble as almost any other disease we meet.

The disease which I shall present to you for consideration is parturient apoplexy, or milk fever, the term usually applied to it by dairy men. It is a malady usually attended with fatal results, and is regarded with more dread by cattle owners than any other disease which the cow is subjected to. Some herds of cattle are more subject to it than others. The majority of cases coming under my notice have been among the high-bred Jerseys.

It is not my purpose to advance any new theory or treatment of this disease, but simply to bring out the views of the different members, through the discussion which I hope will follow.

Causes.—The causes are predisposing and exciting. Among the first may be mentioned high condition, well-fed cows, and especially large milkers, suffer from this disease, and one attack usually predisposes another. The exciting cause is the act of parturition; and from my observation, I have noticed the disease to follow a case of parturition where there has been very slight labor, and the animal being in a plethoric condition. And in my experience in getting the history, the owner says, almost always, that the cow had a very easy time calving, and cleaned in a very short time; and, also, that the appetite was good previous to calving, and from 24 to 48 hours following, while on the contrary I cannot personally call to mind one case of parturient apoplexy following a long and protracted case of parturition.

The pathology of parturient apoplexy appears to be largely a matter of conjecture, even with our leading writers on scien-

tific subjects. Some animals, having a mild attack, recover with ordinary intelligent treatment, while others having it in a more severe form, succumb, in spite of all our efforts. It is a parturient disease, characterized by a sudden suppression of milk, congestion of the brain and apoplexy. The excess of blood in the system, which before calving went to supply the foetus, instead of being diverted to the milk-producing channels, has been thrown back upon the system, and has a determination to the brain. This produces a state of coma, which has to run its course, and which terminates either favorably or unfavorably.

Symptoms.—The first symptom usually occurs in from one to three days after calving. There will be a very sudden diminished secretion of milk, loss of appetite, and rumination ceases. The respirations become hurried and plaintive. There will be knuckling at the fetlock, staggering gait, the animal sways from side to side, and finally falls, very frequently never to rise again.

Treatment.—Many remedies have been prescribed. Some are good, others are worse than useless. Order the animal well bedded, and have sacks of straw packed around her, in order to keep her well upon the sternum. If called early administer magnesia sulphate, one pound. Give enemas of warm water and soap, and, if upon examination you find that the urine is not passed freely, it should be drawn with the catheter, at intervals not exceeding six hours. If deglutition is not impaired, give stimulants at frequent intervals. If you do not get any action from your purgative, I recommend giving sulph. eserine, gr. 1, and repeat in half-grain doses every hour until $2\frac{1}{2}$ grains have been given. Apply mustard to the spinal column, and cold water or cracked ice to the head. As soon as the cow is able to rise, and her bowels have resumed their functions, give light sloppy food for a few days, and follow up for several days with tonics.

Preventative measures—Give a mild saline laxative from three to five days previous to calving, and in many instances all trouble may be avoided, thus verifying the old saying, that "an ounce of prevention is worth a pound of cure."

REPORTS OF CASES.

A FEW DISAPPOINTMENTS WITH ANÆSTHETICS.

By W. E. SMITH, D.V.S., Sedalia, Mo.

In presenting this article I do it with less pride than if I had made a grand discovery for the benefit of science, but from a standpoint of duty. I am prompted to take this step, hoping my experience will be of some benefit to someone like myself, who wishes to know more of the reverses of others. Mistakes and disappointments in many cases are blessings to practitioners. We are apt to tell of our good fortune and let that remain untold which has a tendency to reflect on our success. As we fulfill our requirements at college and settle down in private practice we are, figuratively speaking, alone in the world. When we are called on to perform an operation, we must take hold and secure our patient by leading in the danger we are subjected to, as our clients know nothing about our appliances.

We move on, hoping for something better in using our anti-septic agents. It is done in a very crude manner, on account of operating in or out of doors, according to circumstances. We have some large stock farms to practice on, where there is no barn nor shed. The stock is cornered against a barb-wire fence and caught with ropes. You perform your operation and turn them loose, and your success depends on the good recovery in such cases and with such treatment. Then we hope when we give a dose of medicine to come somewhere near telling how it will operate, but this sometimes disappoints us also; and when we use anæsthetics we hope for a specific action, and here we are apt to suffer defeat again.

Now I wish to describe briefly a few disappointments I have met with in the use of cocaine. The first I shall describe was a saddle-bred stallion, about fifteen hands high, weight about 1000 pounds (a pacer); he made a race record of 2.17 and a

fraction. He gave down in the tendons of both forward limbs, and was put in the stud for a few years, until reverses came to his owner, and he was sold by the sheriff to the highest bidder. He was bought by a trainer and brought to our town to be used on the track again, but soon gave way in his weak parts, so that on June 14th I was requested to fire him; I made a cocaine solution (gr. viii to 100 minims of water, always measuring with hypodermic syringe). This was injected over the tendons and back of the knees. This solution never failed in any other case for the same operation. He never became insensible to any test, not even to the touch of the finger.

So the owner wanted me to chloroform him. I procured $\frac{5}{8}$ xi, and threw him the same as in castration. Made a nose-bag, funnel-shaped, and used in it a large sponge. We tried to give him oxygen at one nostril and chloroform at the other, but this seemed not to work well, so the bag was put over both nostrils, and in due time the chloroform was all used up, and he was as wide awake as ever, although he had fought manfully all the time, and would squeal as if fighting another horse. Then we thought to fire him while he was secured. By mismanagement the benzine bottle of the thermo-cautery was broken, so he was liberated and he sprang to his feet and seemed to feel fresh; he began to eat grass with a relish.

Next day I gave a ball of chloral-hydrate, $\frac{3}{4}$ vi, and threw him and finished the job, the chloral affecting him but slightly. A few days afterward, the groom who had charge of him all through his campaign life came to see him and told me he had been cocained and etherized repeatedly to assist him through his hard races, and at no time had he been benefited in the least.

The second case was a small saddle-bred mare, 15 hands high, weight about 1020 pounds, a pacer, suffering from cartilaginous quittor of about twelve months' standing, with four fistulous openings. She being in foal, I preferred to operate standing, so I injected a solution made of 10 grains of cocaine to 100 minims of water, without the slightest effect. Having my as-

sistants ready, I wished to finish without trying any other solution of cocaine, so I gave a ball of hydrate of chloral $\frac{3}{4}$ vi; cast her, operated above the coronary band by making five incisions from the band to the top of the cartilage, and then dissected the tissues from the cartilage from one opening to the other. With a pair of forceps and a small farrier knife, the cartilage was removed. This operation was a success and easily treated.

The third case was a large black mare about 16 hands high, weight about 1200 pounds, a pacer; she was tracked last year (1893); went lame, supposed to be due to striking her knee; she was rested and booted and tried again, and not being improved, she was turned out. Last fall she was brought in and the owner came and told me how she acted. Later on he brought her for me to see. I told him she was suffering from sidebone and then prescribed treatment. He hoped to avoid firing, so I gave him some ointment to blister with. When he took her home he applied it, but it did no good, except to develop the enlargement. So the last week in December we tried her three times with different solutions of cocaine, hoping to produce anæsthesia and fire her. The first solution was gr. vii to 100 minims; second solution was gr. xv to 100 minims; third time I took gr. xxv to 100 minims, and rubbed it in over the plantar nerve, hoping to be able to inject the needle through the skin without causing pain, and by this measure to aid the subcutaneous injection, which was a solution gr. xxx to 100 minims, and at no time would she allow us to touch her leg with a pin or bare hand, and her eyes were blinded; nor would she allow this done with a twitch on, but became very nervous and had spasmodic contractions of the hind limbs like a string-halted horse; she would kick and paw with this foot (right fore), and showed great excitement. The owner said after she was taken home she laid down and seemed to suffer as with colic. On January 1, 1894, I gave her an ounce ball of chloral, cast her, and finished my task. The ounce of chloral only had the effect of bringing her spirit down to about the level of the average horse. She was not unsteady in her gait in the least, and

she had been fasted and well prepared for casting. After she was relieved from the ropes she got right up and began to eat her bedding.

Now, I will confess I wished to get some information, so I wrote to a good friend of mine, a man who has had a large and long experience and told him of my failures. He attributed it to the solution of cocaine being old. I wrote him that the solutions were always made fresh, and in the proportion as described—the number of grains to the number of drops of water was measured by the hypodermic syringe. It cannot be said that the cocaine was not good; as soon as I had finished the last failure I went to the fire department and fired a horse with gr. iv to 50 minims for ringbone, and he was very nervous on account of being blistered twice before, but he stood still and never moved the foot until I had finished. My friend told me he had never met with a failure with 15 minims of a 10% solution.

There is a question whether more cocaine would have been better or whether more would have proved serious.

It seems novel that all three were pacers.

EXTRACTS FROM GERMAN PAPERS.

BY RICHARD MIDDLETON, D.V.S.

PELVIC FRACTURE AS A CAUSE FOR LAMENESS.

Maier examined a cow which the day before had fallen in such a manner as to cause both posterior limbs to spread from under her and diverge. The animal could not regain its feet, and the hinder extremities seemed unable to make any effort in this direction. Visibly the limbs were normal, but upon rectal examination the patient immediately exhibited symptoms of pain. One could distinguish splinters of bone right and left from the symphysis pubis upon the pelvic floor; a detached piece had even penetrated the inferior wall of the vagina. The animal was slaughtered.

In a second case a ratting cow had mounted a weak calf, which fell under the weight, and afterward showed lameness. The right hind leg was hardly placed upon the ground, and was made to take very little share in sustaining the body weight. The lumbar region was bowed as a result of the position assumed; rectal examination showed fracture of the ileum.

In a third case the lameness appeared after an easy parturition. The animal could not manipulate the right posterior limb, upon which, externally, nothing could be noted. By rotating the leg, crepitation could be plainly distinguished. Animal slaughtered.

Another cow had manifested lameness fourteen days, and became thinner. The right hind leg was favored, and the patient threatened to fall when not supported. Enlargement of the femoro-tibial articulation was plainly visible, although no pain was evinced upon palpation. A swelling was discovered by the introduced hand, upon the lateral wall of the pelvic cavity, which was of a painful character, and which proved to be a fracture of the iliac branch.—*Deutsch. Thier. Woch.*

HÆMOGLOBINURIA.

A horse developed the above affection from a drench of naphthaline. An eight-year-old Danish gelding was brought to the Dresden Clinic, with the history that the day previous he had received the above drench for the removal of colic; and that since the inhibition of this substance he had passed bloody urine.

The patient had been regularly worked, and no signs of a paraplegia of the posterior extremities was visible. After the appearance of pain the owner gave what he supposed, or at least meant, to be magnesium sulphate, but which in fact was coal tar naphthaline. Pulse, temperature and respiration remained normal; conjunctiva intensely jaundiced. Appetite wanting. Urine freely passed, and without pain, and of a dark red color; aromatic odor and alkaline reaction; specific weight 1.025. The naphthalin test was unavailing in the detection of

this drug. Aloes and Glaubers salt were given internally, with cataplasm to the loins. The condition rapidly improved.

In another case of hæmoglobinuria, paralysis was observed of the exterior muscles of both *anterior* limbs as a sequela. As developed in the clinic, this patient had shown azoturia about three weeks previous, and since that time had often fallen upon the knees, being apparently unable to manipulate the anterior muscles when moving in trot. The general state of health, as well as the urine, was at this time in no degree influenced.

When quiet and when walking no impediment of movement was exhibited; but immediately the animal was brought in trot, the above noted symptoms became prominent. Local examinations proved negative.—*Sächs. Veterinär bericht.*

SANTONIN IN THE DOG.

When santonin is given to man in doses of five to eight grains, its toxic symptoms are induced. In canidæ, this agent is generally prescribed for the destruction of round worms, and here it is administered in portions of three to five grains.

Keppel gave a dog, weighing 20 pounds, six grains in unison with one and a half ounces of oil, and increased the dose to fifteen grains within four days. The urine became deeply red in color as the dose was enlarged. Poisonous effects were, however, not present, the subject continued cheerful and retained the appetite.

A dog, weighing 13 pounds, received seven and a half grains without disadvantage; in this same case fifteen and a half grains were given, with the effect that in three-quarters of an hour epileptiform convulsions seized the animal. The same quantity again administered produced the same result, and after a few hours the patient recovered. A three-weeks-old puppy weighing $4\frac{1}{2}$ pounds, resisted the action of four and a half grains in glucose, and even nine grains failed to render the animal unconscious, producing at the most slight contractions of the muscles, staring countenance and unquiet.

In order to confirm the assertion that santonin was eliminated by the kidneys, a medium-sized dog was given seven and a half grains of santonin in some sugar. In three-quarters of an hour the urine showed an onion-red color, reaching its most chromatic effect in the purple hue after the lapse of three hours; in twenty-one hours the urine assumes again its normal color.

The same animal was made to take santonin in ol. ricini, without, however, in any way influencing the elimination of urine. Santonin dissolves but imperfectly and slowly in oleaginous fluids. Therefore, when given in these, it should be thoroughly shaken previous to administering.—*Bericht. des Vet. W. in Sachsen.*

HAIRS IN THE RUMEN OF A COW.

On the 3d of September we were called to see a very sick calf. The animal could not support its own weight, and even in the recumbent position contrived to tremble in all its muscles. The umbilicus was swollen and inflamed, and besides a high fever, the patient also suffered from an obstinate constipation.

We cleansed and disinfected the navel, making an injection in the same, and administered purgatives in various forms. Clysters yielded an exceedingly small quantity of bad-smelling feces, coated with more or less mucoid matter. On the third day, as we could distinguish no improvement, and as the subject was in good condition physically—being unusually strong and well-developed for its age—we advised slaughter.

In the rumen a ball of hair, as large as a goose egg, was discovered. Beneath the latter the gastric papillæ were in an advanced stage of inflammation, and much hypertrophied. The lymph glands along the alimentary canal were likewise inflamed; in those to be found in the mesentery, blood clots were seated. The interior of the intestinal tract was discolored here and there by hæmorrhagic diffusions. All the remaining organs were healthy, and the muscular substance in good condition; the flesh was put on sale for consumption.—*Berl. Th. Woch.* 42, '93.

REPORT OF CHAIRMAN OF COMMITTEE ON SANITARY SCIENCE AND POLICE.

BY PROF. J. J. HARGER.

Read before the Pennsylvania State Veterinary Medical Association.

MR. PRESIDENT AND GENTLEMEN:—As Chairman of your Committee on Sanitary Science and Police, I beg leave to offer you the following brief report.

Fortunately for the community, we have not had any serious or extensive outbreaks of any contagious or infectious diseases beyond the existence, to a greater or less extent, of those forms of contagious diseases which are ever present with us.

In importance, bovine tuberculosis must necessarily be at the head of the list from the influence which it exerts in the transmission of the disease to man.

We had several local outbreaks of glanders, only one of which, at Wilkesbarre, proved very disastrous in its results.

A local outbreak of Texas fever near our city has become a matter of record, but of the details and particulars I shall leave to my fellow-worker on the committee, Dr. Francis Bridge, from whose hands they must come to you in a necessarily complete and official character, as he personally investigated that outbreak.

Tuberculosis is more prevalent near large cities than farther away from them. More prevalent in dairy cattle than in other classes of cattle. Recent tests with tuberculine have shown that more than one-half of the dairy cattle of some herds are tuberculous, while in other herds the percentage of tuberculous cattle is very low, and still other herds are entirely free from the disease.

Experienced veterinarians and breeders of cattle are of the opinion that tuberculosis in cattle is more prevalent now than it was a few years ago, which is seen in Europe as well, where it is corroborated by accurate statistics.

Many herds are so badly affected that the annual mortality destroys the entire profit from the remaining animals. In New

York State whole herds have been examined by order of the State Board of Health, and large numbers of animals have been slaughtered.

The agitation of the subject has so frightened the public that the consumption of milk has been greatly reduced in some places. It has also seriously affected the value of some breeds of cattle.

For the protection of the farmer's interest, aside from the question of public health, it is important that some definite legislative action should be immediately taken, placing the control of tuberculosis in cattle, and the disposal of tuberculous animals, on a fixed basis, so that there may be uniformity of action in this respect, and so the owners of animals may know what to do, what to expect and how to govern themselves accordingly.

Since it is at present manifestly impossible to make a thorough examination of every bovine animal in the state, it would be well to start the examination with an inspection of the dairies supplying milk to the cities. The direction of the inspection of animals and the control of their diseases should be in the hands of competent veterinary authorities, who should also issue a bulletin of information to cattle breeders, informing them of the dangers to be feared from this disease, and the hygienic and other measures to be adopted to restrict its progress and eradicate it from their herds. The veterinary inspector should have the power, under proper restrictions, to order the destruction of tubercular animals. The question as to whether the owner should receive the whole value, or part of the value, or nothing, is one which has received much attention.

To pay the full value of all tubercular animals would mean, as Dr. Lyman of the Massachusetts State Cattle Commission has pointed out for the state, to go into the business of buying up tuberculous animals from all parts of this great country, for they would immediately be shipped to Pennsylvania almost as rapidly as fat cattle are now shipped to Chicago. On the other hand, if nothing was paid for these tuberculous animals

the owners would suffer an excessive, sometimes a ruinous loss in the interest of the public welfare. We might say that a tuberculous animal is worthless and therefore has no value, but we all know that they are sometimes very productive in the dairy, and frequently make beef of reasonably good appearance. The proper course, and a just one, would seem to be to arrange for the division of the loss between the owner and the commonwealth. A reasonable maximum value for the cattle for the various classes should be decided upon. The condemned cattle appraised within this limit by competent and unprejudiced appraisers. After their destruction the owner should receive a portion, say one-third or one-half of the appraised value.

Before closing my remarks on the subject of tuberculosis, I desire to revert to the value of tuberculine as a diagnostic agent, and that we are no longer justified in depending only upon the methods of physical diagnosis in determining the existence of this disease in herds where we have found cases existing. Surely it would seem that we have just entered upon the real field of learning in regard to one of the probable means of the spread and propagation of tuberculosis.

In a well-timed article recently read by Prof. James Law before the New York Veterinary Association, and published in the last month's magazines, this question has been carefully and thoroughly discussed. We have been rudely awakened to a probable source of danger in this insidious disease. It seems that we have not been sufficiently impressed with the importance and influence of this disease. It may be the final explanation why the disease is so wide-spread and so powerful in its results.

We probably have been looking too long for a direct transmission of the tubercle bacilli from parent to offspring, and straining our eyes looking in the microscope for the existence of bacilli in the udder or in the milk, and have wholly lost sight of the general distribution of the poisonous products which are also present in the animal economy. In other words, we have been trying to discover in the body, in the secretions of

the mammary gland, floating tubercle bacilli, or in the gland some localized tubercular masses, and apparently ignorant of the fact that these same channels, which might bring the original bacilli to this point, were sending, distributing, revolving and attempting to eliminate through every excretory channel the poisonous products that followed the introduction of these germs into the system.

In this connection, also, I would impress upon the members of the association the value of mallein as an agent in the diagnosis of glanders, especially because there is no one disease which comes to us so clouded in obscurity as glanders, and which by physical signs more than severely tests the ability of an expert to decide. The use of mallein seems, as far as known, a perfectly safe test, but a much surer one than the common practice of testing by the inoculation of some other animal with the discharge of a questionable ulcer, or perhaps a single farcy-like bud.

NEW YORK PASTEUR INSTITUTE.*

Statistics of the Preventive Treatment against Hydrophobia for
the year 1893. (Fourth Year.)

	A		B		C	
Bites inflicted on the head { simple.....	2				1	
and on the face..... { multiple.....	1	3			4	5
Cauterization { efficacious.....						
non-efficacious.....	1				2	
No Cauterization.....	2				3	
Bites inflicted on the hands { simple.....	3		4		14	
multiple.....	13	16	4	8	10	24
Cauterization { efficacious.....					2	
non-efficacious.....	9		4		13	
No Cauterization.....	7		4		11	
Bites inflicted on the limbs { simple.....					7	
and on the body..... { multiple.....	6	6	1	2	9	16
Cauterization { efficacious.....						
non-efficacious.....	5		1		11	
No Cauterization.....	1		1		5	
Clothes torn.....	2		1		4	
Bites inflicted on bare parts.....	1				3	
Bites inflicted on different parts of the body.....		1		1		3
Cauterization { efficacious.....						
non-efficacious.....	1				2	
No Cauterization.....			1		1	
Clothes torn.....					1	
Bites inflicted on bare parts.....	1		1		3	
Amounts.....		26		11		48
	A		B		C	
General Total.....				85		

(*) The column A refers to persons bitten by animals in which Hydrophobia has been evidenced by experimentation or by the death of some other person or animals bitten by them; column B to persons who have been wounded by animals having been recognized rabid by the clinical or veterinary examination; and column C to cases in which Hydrophobia could only be suspected, as the animals had disappeared or were killed instantly and their bodies thrown away.

THESE 85 PERSONS TREATED CAME FROM

1 Alabama.	10 Maryland.	8 Ohio.
6 Connecticut.	1 Mississippi.	5 Pennsylvania.
6 Delaware.	2 Missouri.	5 South Carolina.
1 District of Columbia,	15 New Jersey.	5 Texas.
1 Indiana.	11 New York.	3 Virginia.
1 Kentucky.	4 North Carolina.	

No death has been reported among these persons.

COLLEGE COMMENCEMENTS.

CHICAGO VETERINARY COLLEGE.

The eleventh annual commencement exercises of the Chicago Veterinary College were held Thursday, March 22d, at the Grand Opera House. A large audience, friends of the students and faculty, assembled to witness the exercises. Sixty-five young men received their diplomas. The proceeding were opened with an address by President R. J. Withers, who outlined the course of study that had been followed by the successful students, and stated that of the number of graduates the large number of thirty-one passed with honors. After the address by the president, the class arose from the body of the theatre and took positions on the platform, where the president conferred the degree of M.D.C. on each member, and each received his diploma, after which they returned to their seats, and were addressed by the Hon. John G. Shortall, President of the Illinois Humane Society. On Mr. Shortall finishing his address, the prizes were distributed. Wm. Thompson received the prize in anatomy and also the prize in materia medica, he having the highest standing in both of these subjects. P. J. Wilkinson received the prize for highest standing in theory and practice. After the prizes were distributed numerous and beautiful floral tokens, sent by friends of the graduating students, were distributed to the various members of the class. The valedictorian, G. R. Flowers, M.D.C., then read a valedictory address. Dr. Arthur R. Reynolds, City Health Commissioner, then delivered the doctorate address. The proceedings closed with farewell remarks by the president. The following are the members of the graduating class and their present locations:

J. S. Anderson, Seward, Neb.; W. F. Andrews, Meadville, Pa.; M. T. Bernard, Serena, Ill.; J. Biggs, Hubbard, Ia.; G. A. Bond, Vicksburg, Mich.; C. J. Britton, Crawfordsville, Ind.; C. C. Brown, Rockville, Ind.; W. F. Brownlee, Clinton, Ia.; J. J. Bruemleve, St. Louis, Mo.; H. J. Campbell, Paxton, Ill.; P. A. Carlson, Mason City, Neb.; C. A. Clinton, Havelock, Ia.; A.

A. Callasowitz, Cincinnati, O.; P. L. Darcey, Chicago, Ill.; G. L. Dixon, Racine, Wis.; S. H. Ellery, Brimfield, Mass.; G. R. Flowers, Lyndonville, N. Y.; D. P. Frame, Colorado Springs, Col.; E. S. Fry, Naperville, Ill.; J. H. Gain, Ada, Minn.; F. T. Gaskin, Plainfield, Ill.; T. J. Heter, Sterling, Kas.; T. H. Hicks, Milbank, S. D.; J. P. Hornig, Rockfield, Wis.; F. P. Hunt, Paxton, Ill.; F. N. Hutchinson, Odell, Ill.; H. Jones, Williamsville, Ill.; J. F. Jones, Wellington, Kas.; H. J. Kannal, Rensselaer, Ind.; R. Kerr, Whitewater, Wis.; D. E. Kinseller, Wyoming, Ill.; R. Kuoni, Sauk City, Wis.; W. F. Lazear, Derby, Ia.; G. W. Loveland, Colebrook, Conn.; W. Matz, Bellevue, O.; A. J. Mauland, Chicago, Ill.; W. E. McBain, Jr., Toledo, O.; B. C. McClintock, Meadville, Pa.; E. A. McCullough, Calcedonia, Wis.; J. H. McLain, Inkster, N. D.; D. H. Miller, Norton, Kas.; W. A. Myers, Wenona, Ill.; A. S. Nesbitt, Maroa, Ill.; W. H. Netherland, Louisville, Ky.; C. O. Netherton, Galatin, Mo.; J. W. Otto, Magnolia, Ill.; J. N. Piatt, Boonville, Ind.; C. J. Rhodes, Roscoe, Ill.; A. L. Robinson, Winsted, Conn.; O. Rydell, Minneapolis, Minn.; S. K. Shenck, Salina, Kan.; G. L. Simon, Hometown, Ind.; J. D. Sprague, Owensville, Ind.; C. E. Stewart, Oakley, Ia.; H. J. Stewart, Chicago, Ill.; H. L. Stewart, Oakley, Ia.; J. W. Styles, Peotone, Ill.; Wm. Thompson, Calumet, Ill.; F. P. Tobin, Chicago, Ill.; R. H. Treacy, Steele, N. D.; B. F. Ward, Braidwood, Ill.; C. A. White, Chicago, Ill.; J. W. White, Roberts, Ill.; P. J. Wilkinson, Delafield, Wis.; A. S. Withers, Chicago, Ill.

ONTARIO VETERINARY COLLEGE.

The annual closing exercises of the Ontario Veterinary College were held on the 24th of March, in the lecture room of the college, Prof. Andrew Smith presiding.

GRADUATES.—Andrew L. Alton, Oakville; Walter N. Armstrong, Arthur W. Baker, Cortland, N. Y.; Henry C. Babcock, College Springs, Ia.; Claude Bailey, Rosemont; Alfred Barradell, Kettleby; Levi Porter Beechy, Berlin, O.; Christian F. Behner, Grand View, Ill.; William R. Bell, St. Louis, Mich.; Lincoln L. Bishop, Delavan, N. Y.; Judson Black, Yale, Mich.; John C. Blackwell, Centralia, Wash.; Harry P. Bock, New Ringgold, Pa.; Delbert A. Bonesteel, Frankford, E. Grant

6 Iowa

Britton, Guy's Mills, Pa.; Thomas Burns, Croghan, N. Y.; Joseph Butters, Motherwell; Andrew J. Battin, Shunk, Pa.; Samuel A. Bradley, Louisville, Ky.; Archibald B. Campbell, Toronto; Richard Colthurst, Cork, Ireland; Clare V. Connell, Wauseon, O.; James Crail, Tipton, Ind.; John T. Cunningham, Woonsocket, R. I.; Charles F. Curtiss, Parker, S. D.; John F. Cline, Glenboro', Man.; John T. Dade, Hutchinson, Kas.; Clem. M. Detar, Fryburg, Pa.; Richard G. Dingman, Portland, Ore.; Wilber C. Doss, Pittsfield, Ill.; James M. Douglass, Dundee, Scotland; Joseph M. Douglas, Hendrum, Minn.; Jaroslav J. Drasky, Wilber, Neb.; J. W. Dunham, Owatonna, Minn.; I. S. Deitrich, Hamburg, Pa.; Charles F. Ebner, Ipswich, S. D.; Thomas Falconer, Grandin, N. D.; Robert O. Fenton, Kingsley, Ia.; B. Fisher, Creston, Ia.; George Fitchett, Pinnebog, Minn.; John F. Fitzimmons, Danbury, Conn.; Andrew G. Fortune, Vesta; Fred. L. Foust, Defiance, O.; Frank Fowler, Plum Creek, Man.; William R. Fullarton, Dubuque, Ia.; George R. Fetherolf, Mahanoy City, Pa.; Geo. S. Gates, Oneida, Ill.; Otto H. Gebhardt, Alpena, Mich.; E. D. Gleason, Carlinville, Ill.; Joseph M. Good, Greenwood, Miss.; William F. C. Gregg, Barrie; William J. Glasgow, Springfield, Mass.; Francis A. Harsh, Augusta, O.; G. W. Heighway, London; Alfred W. Hinman, Braddock, Pa.; Thomas S. Hitch, Griggsville, Ill.; John Howle, Barnett; William F. Heyde, St. Louis, Mo.; W. R. Hunter, Lewiston, N. Y.; Christian D. Hemmy, Juncan, Wis.; Peter I. Johnson, Marion, N. Y.; George B. Jones, Nevins, Ill.; T. D. Jones, Avoca, Pa.; James S. Joyce, Mansewood; Amandus H. Kistler, Andres, Pa.; Albert J. Kline, Ridgeville Corners, O.; W. L. P. Knoll, Montrose, Pa.; William E. Kreider, Wadsworth, O.; John E. Laidlaw, Glenworth; L. Sherman Lane, Harrisburg, O.; Walter E. Lathrop, Bad Axe, Mich.; D. J. McColl, Lucan; Alexander McConnell, Jarvis; W. W. McCrae, Steubenville, O.; John T. McElroy, Concord; John McGillicuddy, Watford; John G. McGuffin, London; P. L. McCollum, Lewiston, N. Y.; R. J. Marshall, Brandon, Man.; Charles H. Martin, Buffalo, N. D.; Harry M. Martin, Townsenshend, Vt.; W. E. Martin, Perry, Mo.; Robert E. Monteith, Killarney, Man.; Norman Morgan, Strathroy; Henry H. Muecke, Sioux City, Ia.; Robert Mollance, Kirkcudbright, Scotland; Augustus C. Murphy, Sydney, B. C.; Sylvester J. Murray, Medo, Minn.; S. Forest, Musselman, Cynthina, Ky.; Elisha Myer, Ottawa, Ill.; Horace A. Myers, Lodi, O.; Sydney D. Myers, Wooster, O.; W. M. Molyneaux, Forksville, Pa.; John Neville, Decatur, Mich.; Jas. Nicholson, Edinburgh, Scotland; Erasmus M. Nighbert, Palmyra, Ill.; William C. Orr, Dillon, Mon.; John Henry Penfold, Tweedside; James W. Price, Reynoldsburg, O.; William Pullyblank, Keene; Sydney J. Raspberry, Hamilton; William H. Richardson, Watford; Robert Robb, Newman, Ill.; James E. Robertson, West Union, Ia.; Harvey W. Robinson, Guilford, Ind.; Z. L. Rogers, East Palestine, O.; Richard C. Rolles, Maryborough; M. B. Rombough, Morden, Man.; James D. Ross, Port Dover; J. Rowe, Sandusky, O.; William J. Rooks, Holland, Mich.; J. Gill Sallade, New Ringgold, Pa.; Charles A. Sankey, Rossevaire, Man.; Walter A. Seale, Granby, P. Q.; W. J. Shields, Lake Malon; Ernest H. Shuttleworth, Beaconsfield, Ia.; John A. Smith, Ivan; Wade H. Smith, Pleasant Corners, O.; William H. Smith, Morden, Man.; S. Rowe Snively, Lanark, Ill.; O. F. Stearns, Windham, Vt.; James C. Stevens, De Ruyter, N. Y.; E. W. Sunderlin, Auburn, N. Y.; Francis Taggart, Wilsonville; F. Evans Tibbals, Somerset, Ky.; Robert Turnbull, Danville, Ill.; H. A. Turner, Syracuse, N. Y.; Adam R. Van Luven, Cape Vincent, N. Y.; George M. Walrod, Lake View, Ia.; Frederick A. Walsh, Kingston; S. Hay Ward, Chlandebove,

Man.; Le Roy Webber, Rochester, N. Y.; H. F. Whaley, San Francisco, Cal.; Arthur W. Whitehouse, Laramie, Wy.; E. J. Whitworth, Lynedoch; Robert J. Willis, Brampton; Charles L. Widmeyer, Gretna, Man.; C. Otto Wagoner, Akron, O.; W. H. Wilkinson, Almont, Mich.; John W. Welch, Toronto.

8 Ja

THE SPEECHES.—At the conclusion of the prize distribution, several of the gentlemen on the platform delivered brief addresses to the students. Mayor Kennedy opened the ball with a felicitous speech, in which he congratulated the college and the students upon the conclusion of another successful year in the history of the institution. He commented upon the large number of students present from the United States, British Columbia, the Northwest and many other distant points, and declared that this was a strong testimonial to the wide reputation and thorough work of the college. Many present were leaving college to begin life, but he urged them never to give up study, but to continue to the end of life with the same thorough whole-heartedness that they had conducted their work during their term at the college. (Cheers.)

Principal Caven added his meed of congratulation, and endorsed the mayor's remarks upon the necessity and value of continuous study. This, he declared, was not only a necessity, but the highest joy. The best moral attainments were nearly always found alongside of the best intellectual attainments; a good student was nearly always a good man. He was satisfied the students before them would do all in their power to elevate and advance their chosen profession. (Cheers.)

Public School Inspector J. L. Hughes advised the students to not only keep up with the latest developments in their own profession, but also branch out into other departments. He reiterated and endorsed Henry Irving's advice to the students at Harvard, to nurture and develop their individualism. There was a great personal responsibility attaching to each of them, a responsibility to themselves, their college, their parents, their neighbors, their country and their God.

Mr. J. J. Withrow, President of the Toronto Industrial Exhibition Association, was the next speaker, and he was followed

by Mr. Millar, Deputy Minister of Education; Dr. Thornburn, Mr. Cowan and Mr. Burns.

Before the meeting dispersed a pleasant incident occurred, when Mr. Blackwell of Washington Territory, one of the year's graduates, rose in the body of the hall, and in appropriate and appreciative terms presented Prof. Smith, in the name of the 1894 class, with a large and excellent photograph of the graduates. The group contained about 170 likenesses, and was handsomely mounted and framed.

Prof. Smith acknowledged the gift feelingly, and referred in kindly terms to the good work and high standard of discipline which had characterized the year.

SOCIETY MEETINGS.

UNITED STATES VETERINARY MEDICAL ASSOCIATION, 1893-94.

OFFICERS.—W. Horace Hoskins, President, 3452-54 Ludlow St., Philadelphia, Pa.; A. V. Clement, Vice-president, 902 Cathedral St., Baltimore, Md.; T. J. Turner, Secretary, Columbia, Mo.; Jas. L. Robertson, Treasurer, 409 Ninth Ave., N. Y. City.

COMMITTEES.—*Comitia Minora*.—W. Horace Hoskins, President, 3452 Ludlow St., Philadelphia, Pa.; A. W. Clement, Vice-president, 902 Cathedral St., Baltimore, Md.; T. J. Turner, Secretary, Columbia, Mo.; Jas. L. Robertson, Treasurer, 409 Ninth Ave., N. Y. City, ex-officio; A. Liautard, Chairman, 141 W. 54th St., N. Y. City; W. L. Williams, Bozeman, Mon.; R. S. Huidekoper, 155 W. 56th St., N. Y. City; T. B. Rayner, Chestnut Hill, Philadelphia, Pa.; F. H. Osgood, 50 Village St., Boston, Mass.; J. F. Winchester, Lawrence, Mass.; A. H. Baker, 145 Michigan Ave., Chicago, Ill.

Intelligence and Education.—C. A. Carey, Chairman, Auburn, Ala.; Nelson P. Hinkley, 495 Elliott St., Buffalo, N. Y.; W. B. Niles, Ames, Ia.; Olof. Schwarzkopf, 445 Roberts St., St. Paul, Minn.; J. C. Meyer, Jr., 379-81 Walnut St., Cincinnati, O.

Finance.—Wm. Dougherty, Chairman, 1035 Cathedral St.,

Baltimore, Md.; S. S. Baker, 901 Jackson Boulevard, Chicago, Ill.; R. A. McLean, 14 and 16 Nevins St., Brooklyn, N. Y.

Committee on Diseases.—Leonard Pearson, Chairman, 2200 Pine St., Philadelphia, Pa.; N. S. Mayo, Manhattan, Kas.; S. E. Weber, Lancaster, Pa.; Wyatt Johnson, 244 Mountain St., Montreal, Can.; T. D. Hinebauch, Fargo, N. D.

Prize.—R. L. Huidekoper, Chairman, 155 W. 56th St., N. Y. City; W. Herbert Lowe, 190 Ellerson St., Paterson, N. J.; L. McLean, 14 and 16 Nevins St., Brooklyn, N. Y.

Army Legislation.—F. L. Kilborne, Chairman, Department of Agriculture, Washington, D. C.; Gen. E. Griffin, Fort McIntosh, Laredo, Tex.; Jas. A. Waugh, 49 Race St., Allegheny, Pa.

Publication Committee.—L. H. Howard, Chairman, 1440 Washington St., Boston Mass.; J. B. Rayner, Westchester, Pa.; A. T. Sellers, 312 South 5th St., Camden, N. J.

SPECIAL COMMITTEES.—*Congress of Colleges.*—W. Horace Hoskins, Chairman, 3452-54 Ludlow St., Philadelphia, Pa.; A. W. Clement, 902 Cathedral St., Baltimore, Md.

Act of Incorporation.—C. P. Lyman, Chairman, 50 Village St., Boston, Mass.; Wm. Dougherty, 1035 Cathedral St., Baltimore, Md.; D. J. Dixon, 366 Washington St., Hoboken, N. J.

Revision of Constitution and By-Laws.—W. Horace Hoskins, President, 3452-54 Ludlow St., Philadelphia, Pa.; A. W. Clement, Vice-president, 902 Cathedral St., Baltimore, Md.; T. J. Turner, Secretary, Columbia, Mo.; Jas. L. Robertson, Treasurer, 409 Ninth Ave., N. Y. City.; W. B. E. Miller, Chairman, 527 Penn St., Camden, N. J.; Leonard Pearson, 2200 Pine St., Philadelphia, Pa.; S. Stewart, 7½ St. James St., Kansas City, Kas.

Nomenclature of Swine Plague and Hog Cholera.—A. W. Clement, Chairman, 902 Cathedral St., Baltimore, Md.; Austin Peters, 35 Congress St., Boston, Mass.; Theobald Smith, 1804 Columbia Road, Washington, D. C.

Resident State Secretaries.—R. R. Dinwiddie, Fayetteville, Ark.; R. A. Archibald, Sacramento, Cal.; J. K. Thompson, Pueblo, Col.; J. D. Robinson, 420 Eighth St., N. Washington,

D. C.; Matthew Wilson, Mendota, Ill.; J. O. Greeson, Kokomo, Ind.; F. H. P. Edwards, Iowa City, Ia.; R. H. Harrison, Atchison, Kas.; Jno. M. Parker, 24 Essex St., Haverhill, Mass.; Wm. Jopling, Owosso, Mich.; Jno. S. Meyer, 513 Edmond St., St. Joseph, Mo.; W. L. Williams, Bozeman, Mon.; W. T. Crewe, Devils Lake, N. D.; J. P. Turner, Fort Niobrara, Neb.; F. C. Wilkinson, Claremont, N. H.; E. B. Ackerman, 278 Monroe St., Brooklyn, N. Y.; N. B. Jones, 135 Sycamore St., Cincinnati, O.; H. J. McClellan, Lansdown, Pa.; J. W. Schiebler, 312 Third St., Memphis, Tenn.; Gerald Griffin, Fort McIntosh, Laredo, Tex.; S. B. Nelson, Spokane Falls, Wash.; Leon N. Reefer, 1426 Market St., Wheeling, W. Va.

UNITED STATES VETERINARY MEDICAL ASSOCIATION—MEETING
OF THE COMITIA MINORA.

At the call of the president, the Comitia Minora met in New York on April 3d, with Drs. Hoskins, Robertson, Raynor, Winchester and Liautard present.

Dr. Hoskins made a report in regard to the bill of the stenographer of the annual meeting in Chicago, and, on motion of Dr. Raynor, seconded by Dr. Robertson, it was accepted, with directions to have the bill paid, after approval by the Finance Committee.

Letters which had been addressed to Dr. Liautard, chairman, from Buffalo and Cincinnati, were read, suggesting those places for the next annual meeting of the association. Remarks were then made by the members of a committee appointed by the Pennsylvania State Veterinary Medical Association, asking that the meeting be held in Philadelphia. After hearing the committee, Dr. Robertson moved that an informal ballot be taken.

Drs. Baker, Clement, Turner and Osgood were represented by proxies, Dr. Hoskins casting votes for them. The result of the informal vote gave five for Philadelphia and three to Buffalo. Dr. Hoskins then moved, and it was seconded by Dr. Raynor, that the formal vote be taken. It resulted in giving five votes for Philadelphia, three to Buffalo.

On motion of Dr. Robertson, the President of the Association was authorized to appoint a committee of three, named the Committee on Programme, to regulate the organization of the next September meeting. Dr. Raynor seconded the motion, which was carried.

A telegram received from Dr. F. H. Osgood, announcing the death of Dr. John S. Saunders, of Boston, was read. Dr. Robertson moved that the sympathy of the Comitia Minora now in session, be conveyed to his family by Dr. Winchester, awaiting the formal action of the association. The motion was seconded, carried, and a telegram of sympathy was sent to the family of the doctor.

Motion to adjourn. Carried.

A. LIAUTARD, *Chairman.*

ERIE COUNTY VETERINARY MEDICAL ASSOCIATION.

At a meeting held at the office of Dr. N. P. Hinkley, in Buffalo, Wednesday evening, March 28, 1894, for the purpose of organizing a veterinary medical society for the county of Erie, the following practitioners of veterinary medicine were present:

Drs. J. Wende, Hinkley, Huessler, Ayers, Robinson, S. Somerville, Jr., B. Wende, Thompson, Block, Willyoung, McLeod, Gangloff, Willgansz and Wieland.

The meeting was called to order by Dr. L. E. Willyoung, who said:

"GENTLEMEN:—At the annual meeting of the New York State Veterinary Medical Society, held in Syracuse in January, 1894, the subject of organizing county veterinary societies for the different counties throughout the state was discussed at length. While New York and Brooklyn have each a county society, there are no others at present in the state. As officers of the State Society, we took it upon ourselves to organize and establish a permanent Veterinary Medical Society for the county of Erie, with objects as follows:

"1. To hold regular monthly meetings for the purpose of

discussing professional subjects, for mutual improvement, and to improve the status of the veterinary profession by bringing its members into more intimate relationship and consolidating them as a distinctive professional body in the community.

"2. Members to consist of (*a*) Charter Members—all those practicing veterinary medicine who assist in the organization of the above association, and conform to the regulations formulated by a two-third vote of those in attendance at the first meeting of the organization; (*b*) Future Members—to be elected who shall be graduates of veterinary colleges which are legally entitled to grant veterinary diplomas, and which shall be recognized by this association as properly qualified, equipped and conducted for the same.

"Applicants for future membership shall furnish: 1. Proof of graduation from one of such qualified institutions; 2. Vouchers signed by two members of the association testifying to their reputable standing as business men and professional methods; 3. Shall be elected as provided for by the by-laws of this association.

"GENTLEMEN:—We have issued invitations to every veterinary surgeon registered at the Erie County Clerk's office, and would be pleased to have every one become a member of this organization. The practitioners of human medicine have a county medical society, which has been in existence for several years, and they have been fortunate enough to secure legislation which, in a measure, enables them to control the practice of medicine in this county. It protects the members, encourages and benefits all new-comers and prevents imposition. In fact, in order to practice in this county a physician must first join the society. With the progress we are making, the attention and respect we meet with from our legislature, how long will it be before our society shall be vested with the same power?

"Now, gentlemen, I would suggest that we appoint or elect a chairman for this meeting."

Dr. John Wende was called to the chair, and Dr. Willyoung acted as secretary. It was decided, by a two-thirds vote of

those present that the name of the new association should be "The Erie County Veterinary Medical Society."

It was decided to hold the privilege of joining open to non-graduates till next meeting. The election of officers was then taken up and resulted as follows:

President, John Wende, V.S.; Vice-president, L. Robinson, V.S.; Secretary, C. J. Willganz, V.M.S.; Treasurer, E. J. McLeod, D.V.S.

On motion of Dr. Willyoung, the following Committee on By-Laws was appointed with instructions to report at the next meeting: Drs. Willyoung, S. Somerville, Jr., and Block, with the president and secretary.

The meeting adjourned to meet again April 11th, at 8 P. M., at Dr. Hinkley's office.

C. J. WILLGANSZ, V.M.D., *Secretary*.

PENNSYLVANIA STATE VETERINARY MEDICAL ASSOCIATION.*

The Pennsylvania State Veterinary Medical Association assembled in the College of Physicians, 13th and Locust Sts., President Hoskins in the chair. The meeting was called to order at 10:30 A. M. At roll-call the following members were present: Drs. Allen, Benner, Bridge, Collins, Conard, Custer, Ferley, Formad, Gladfelter, Glass, Goenter, Harger, Hart, Walter N. Hart, John R. Hoskins, Houldsworth, Keely, Kiel, Kooker, Lusson, McCarthy, McNeil, Pearson, Rayner, Thomas B. Rayner, Jas. B. Ridge, Sallade, Schaufler, Schriber, Webster, Williams, Zuill.

There was also present, Prof. Adam, of the Veterinary Department, University of Pennsylvania; Drs. McAnulty and E. S. Moyer, Dr. B. Lee, State Board of Health; and Drs. Ritter and May as delegates from New Jersey State Veterinary Medical Association; Drs. Dustan and Lockwood, and a number of students from the University of Pennsylvania.

Letters of regret were received from Drs. Lee and Waugh,

* This was not received until April 2d—hence its late insertion.—[EDIT.]

Mr. Beitler, Director of Public Safety of Philadelphia, and Secretary Edge, of the Board of Agriculture.

The minutes of the September meeting were then read by the secretary, and on motion adopted as read.

The president then read his address, which was a brief review of the progress made in association circles, and the work accomplished by this association the past two years. Referring to the trying times in all avocations, he gave words of encouragement to all those who would remain steadfast to the true aims and objects of the profession during the present trying crisis.

The chair announced that nominations for officers were now in order, when the following nominations were made: President, Leonard Pearson; First Vice-president, W. H. Ridge; Second Vice-president, Thos. B. Rayner; Third Vice-president, Drs. Keil and Waugh; Recording Secretary, W. G. Benner; Corresponding Secretary, Drs. Helmer, Ridge, Harger, Allen, Gladfelter, Goentner; Treasurer, John R. Hart; Board of Censors, Drs. Harger, Zuill, Hoskins, Bridge, Kooker, Thomas B. Rayner, McNeil.

There was a motion put that the rules be suspended and secretary cast the ballot for nominees where there was no opposing candidate. There being some objection, the chair ruled that a full ballot be cast. Drs. James B. Rayner and Webster being appointed by the chair as tellers, the election was proceeded with and the tellers then reported the tally of ballot. President, Leonard Pearson, 32 votes; First Vice-president, W. H. Ridge, 22 votes; Second Vice-president, Thomas B. Rayner, 22 votes; Third Vice-president, James A. Waugh 16 votes and Z. S. Keil, 5 votes; Recording Secretary, W. G. Benner, 21 votes; Corresponding Secretary, W. H. Ridge, 2 votes, F. S. Allen, 12 votes, R. Gladfelter, 2 votes, C. Goentner, 7 votes; Treasurer, J. R. Hart, 20 votes; Board of Censors, S. J. J. Harger, 21 votes, W. L. Zuill, 15 votes, F. Bridge, 10 votes, W. S. Kooker, 16 votes, J. C. McNeil, 19 votes, W. H. Hoskins, 18 votes, Thomas B. Rayner, 14 votes, James B. Rayner, 2 votes.

The tellers were requested to recount the votes as they had counted two ballots cast for James B. Rayner to account of Thos. B. Rayner, the above being the corrected count of tellers.

The president then thereupon announced the elected officers for the ensuing year: President, Leonard Pearson; First Vice-president, W. H. Ridge; Second Vice-president, Thomas B. Rayner; Third Vice-president, James A. Waugh; Recording Secretary, W. G. Benner; Corresponding Secretary, F. S. Allen; Treasurer, John R. Hart; Board of Censors, S. J. J. Harger, Chairman; J. C. McNeil, W. Horace Hoskins, W. S. Kooker and W. L. Zuill.

Corresponding Secretary Ridge then read the following applications for membership: Dr. W. A. Shields, V.M.D., Dr. Charles Ernest, V.M.D., Prof. John W. Adams, V.M.D., Dr. E. S. Moyer, and Dr. James McAnulty; also those which had been laid over of Drs. Tomlinson, Cayley and Fox.

A recess of fifteen minutes was then taken that the Board of Trustees might examine into the aforesaid applications.

The board being prepared to report, the gavel from the chair restored order, and the report of trustees was given by Prof. Harger, offering a favorable recommendation of Drs. Shield, Adams, Ernest, Moyer and McAnulty. Unfavorably recommended, Drs. Tomlinson, Fox and Cawley.

The report of Board of Trustees was favorably received.

The chair then directed that each applicant favorably reported by the board should be balloted for. A motion prevailed, however, that applicants should be elected singly by acclamation. The election of applicants was so conducted, and Drs. W. A. Shields, Charles M. Ernest, John W. Adams, James McAnulty and E. S. Moyer were elected to membership. The president then introduced those of the elected members which were present.

At 1 o'clock a motion was then entertained to adjourn for luncheon at "Boothby's Restaurant," the same being extended by the Philadelphia members to all present, who heartily enjoyed the same.

The afternoon session was called to order at 2:15 P. M.

The chair announced that the delegates of the New Jersey Veterinary Medical Association, Drs. Dustan and Lockwood, were present, and a cordial welcome, with privilege of the floor, was extended to them. The chair further stated that 2 P. M. was the time appointed to open the discussion and consider the advisability of continuing the attempted legislation relative to milk and meat inspection, and that the letters of regret from Secretary Edge and Director Beitler were a disappointment to himself and all the members, as much information upon this subject was expected from them. He requested that Prof. Pearson open the subject, which he did, and after stating in what form the bill had been presented to the legislature thought that it might in some way be improved upon, when we could hope for better success in the future. He laid considerable stress upon the importance of eradicating tuberculosis, and made more valuable suggestions, which were edifying to all present.

Dr. Benj. Lee, from the State Board of Health, was the next speaker on the subject, and gave also many valuable suggestions. He thought the standard of solids might be somewhat reduced, which would strengthen the bill of meat inspection, as the reduction from 12 per cent. to 11 per cent. would make little difference to the health of the general public, and would give the bill a better chance to pass in this respect. He referred to an act which was passed by the Massachusetts legislature, when in May and June the standard of milk was lower there those months owing to the fact that animals grazed upon early vegetation when it contained much juice, and in consequence would not yield such rich milk as when they were much matured. He spoke earnestly of the importance of eradicating tuberculosis in domesticated animals, the products of which were used for human food, and said that the State of Massachusetts had gone at it in earnest; that ten thousand dollars (\$10,000) were appropriated in that state for laboratory work alone, and their entire appropriation amounted to forty thou-

sand dollars (\$40,000), while the appropriation in this state amounted to four thousand dollars (\$4,000) but notwithstanding the township Board of Health had multiplied rapidly, and they hoped in the near future to establish a local board in each township.

Prof. Harger thought the bill, as had been presented, too complicated; better one a milk bill and the other a meat bill, but what is of first importance is stock inspection.

Dr. Schrieber thought that any bill which would provide for the extermination of tuberculosis would be futile unless it was so framed as to necessitate the inspection of cattle from other states, thereby preventing the emigration of the disease.

Dr. Sallade thought the general public should be better educated in tuberculosis and other contagious and infectious diseases, then there would be no trouble in getting laws passed to stamp out such diseases. That the Bovine Association, of which he is president, was formed for this purpose largely.

Dr. Zuill thought that bills as presented are trying to the farmer and dairy-man, as they had all to lose, even his time and annoyance.

Prof. Harger then offered the following resolutions:

Whereas, The sanitary inspection of the various food stuffs consumed by man has reached such dimensions as to become a subject for public discussion, and knowing that their contamination with impurities is a menace to the public health,

Whereas, We have undisputed evidence that certain diseases affecting dairy animals are transmissible to man through emanations from these animals and their surroundings, and especially through the milk as has been established in the case of tuberculosis of cattle and other diseases, and which are the source of wide-spread and fatal diseases among mankind,

Be it Resolved, That it is the sense of the association that dairies and their surroundings, the milk of which is offered for sale in this commonwealth, be thoroughly inspected, and that its members display every effort in securing proper legislation to procure a pure and wholesome milk supply.

Dr. Schaufler asked that this resolution be referred to a committee of three, but as it was presented as a general resolution it was on motion adopted as the sense of the association, and that it be spread upon the minutes.

Report of committee now in order, Dr. Kooker, Chairman of Committee on Legislation. reported as follows:

To the President and Members of the Pennsylvania State Veterinary Medical Association:

We beg to state that since the semi-annual meeting we have had no complaints of violation of the veterinary registry laws. The Keystone Association of this city appointed a committee to visit the Prothonotary's office and have the Veterinary Registry revised according to law, viz., have removals and deaths so recorded on the registry. We would advise the appointment, by the president of this association, of a member in each county to examine the registry and have it amended by noting the removals from the county, and also those who may be deceased. We would like to have the sense of this meeting on the passage of a law requiring all those having diplomas and contemplating practicing veterinary medicine and surgery in this state, be required to present the same before an examining board, which shall entitle them to be examined by said board, and if the examination prove satisfactory, then said board will issue a certificate to that effect, which will entitle them to be registered. We would like this subject to be discussed before this meeting that the Legislative Committee may know the wishes of this association in the matter of the bill as well as the passage of such a bill. In the event of this association agreeing with this committee, then the Legislative Committee will have a bill drawn up according to their wishes and ready for presentation at the semi-annual meeting in September.

We would also bring before the association the matter of the meat and milk supply, and urge the profession to assist in every legitimate manner the Board of Health in its passage of such a bill. It is the opinion of this committee that the

State Board of Agriculture that controls the contagious diseases of our live-stock should be under the charge and control of veterinarians, and would like the sense of this association on the subject.

W. S. KOOKER, *Chairman.*

T. B. RAYNER.

JAS. W. SALLADE.

FRANCIS BRIDGE.

The report of the committee was received and ordered to be spread upon the minutes, when on motion a committee of three was appointed by the chair to draw suitable resolutions in regard to establishing a state board of veterinary examiners. This committee consisted of Drs. Zuill, Pearson and Kooker, who subsequently offered the following resolution, which was adopted:

Whereas, It is the sense of this association that the registration bill fails to accomplish the purpose for which it was intended, that is, confining the practice of veterinary medicine to qualified practitioners, be it

Resolved, That the Legislative Committee of the Pennsylvania State Veterinary Medical Association of Pennsylvania be instructed to draft a bill, the object of which shall be better regulation and practice of veterinary medicine, to provide a Board of Veterinary Examiners to examine all persons desiring to practice veterinary medicine in this state on the various subjects of their profession. The board to be appointed as thereafter provided, and to be known as the State Veterinary Examiner's Board.

W. S. KOOKER.

W. L. ZUILL.

It was further recommended that there be one member in each county which was represented in this association appointed to look after the county registry of veterinarians.

It was moved and seconded that this association send its Committee on Legislation to formulate a bill in connection with

the meat and milk supply, and report the same at the September meeting.

The following resolution was then offered by Dr. Williams, and on motion accepted and ordered to be spread upon the minutes.

Whereas, The veterinary profession has reached a stage in its development that may properly be designated and independent, and is protected as an independent profession by the laws of the State of Pennsylvania, and

Whereas, We feel that it is within the power of the veterinarians of Pennsylvania to be of great public service to the owners and consumers of live-stock and their products, be it

Resolved, That the matter of the control, eradication and investigation of contagious and other diseases among animals in this commonwealth should be directed and carried out by veterinarians who, indeed, are the only ones capable of serving the best interests of the public in the above-named capacity.

CHAS. F. WILLIAMS.

The next report was that of the Committee on Sanitary Science and Police by Dr. Formad. This notes no new disease, speaks of some length of the diseases of tuberculosis which was still existing, and of the value of tuberculin as a diagnostic agent in this disease, and of mallein in glanders, etc.

State Veterinarian, Dr. Bridge, also a member of said committee, was asked to address the members upon the subject, which he did. He said that in the last year 39 herds of cattle were reported in the state which suffered from tuberculosis, numbering altogether 450 head, 91 of which were diseased. Fifty-eight head were destroyed, which fully exemplified the disease, and in 5 head no visible traces of the disease appeared. The entire number had been tested with tuberculin, and of the 91 which showed some reaction all were destroyed. That 150 cases of glanders were reported; of this number 61 were found diseased, but that altogether 68 head had been destroyed. These, also, were tested with mallein.

He further reported the outbreak in two herds of "anthrax," of which 6 animals died.

The committee's report was accepted, and a vote of thanks was extended to the committee for the same.

There was no report from the Committee on Intelligence and Education, owing to the fact that a letter from the chairman, Dr. Weber, stated that on account of illness he was unable to be present, and was unable to draft a report. This matter had been referred by him to Dr. Helmer, who also was unable to be present at the meeting.

The report of Corresponding Secretary Ridge was then read, and on motion received and ordered to be spread upon the minutes.

Next in order the treasurer's report was read, which showed a balance in treasury, March 6, 1894, of \$42.53.

PHILADELPHIA, March 7, 1894.

The second day's session of the Pennsylvania State Veterinary Medical Association was called to order by President Hoskins at 10:30 A. M. The following members were present: Drs. Allen, Benner, Collins, Ferley, Foelker, J. C. Formad, Gladfelter, Harger, John R. Hart, Walter L. Hart, Hoskins, Houldsworth, Keeley, Kiel, Knight, Kooker, Lusson, W. B. E. Miller, McCarthy, Pearson, Phillips, Thomas B. Rayner, Sallade, Schaufler, Sturge, Tagg, Timberman, Webster, Williams, Zuill, Marsack, Adams, Felton, Nicholson, McAnulty, Rhoads.

As delegates from New Jersey Veterinary Medical Association, Drs. Duston and Lockwood. As visitors from New Jersey, Drs. Runge and Bailey. From Delaware, Dr. Eves; from Maryland, Dr. Martenet. Also S. G. Hendren, E. L. Killner, A. Lallinger, R. M. Black, U. G. Houck, F. A. M. Bertram, Thos. Castnor, E. H. Moore, G. W. Dilher, S. K. Green, F. T. Shannon, F. H. Andrews, E. Mount, E. E. Terry, E. Knight, C. J. Marshall, J. M. Carter, R. J. S. Wicksel, C. E. Fouse, J. J. Rechenwald, E. Hogg, B. M. Underhill, C. W. Boyd, L. Brackbill, George E. Harder, R. D. Heaton and G. F. Hartler.

A letter was read from Dr. J. A. Waugh, in which he regrets his absence, and in which he calls attention of the association to an advertisement published in the *Spirit of the Times* (sporting paper), dated December 3, 1893, of the Ontario Veterinary College, advertising for students for a term of three months. This letter was referred to the Board of Trustees.

The chair said, whereas, the Wisconsin State Veterinary Medical Association of graduates were this day in session also considering kindred subjects to ours, that this association should extend their congratulations, whereupon a motion to that effect prevailed, and Drs. Ridge, Kooker and Timberman were appointed to compile a message of congratulations and forward the same to the Wisconsin Association, which was answered by the Wisconsin Association in very warm terms.

Delegates appointed to various state associations were then asked to report.

Dr. J. C. Foelker reported as delegate to the International Congress held at Chicago. Dr. Kooker, delegate to the New Jersey Veterinary Medical Association, reported that he was unable to attend. A similar report came from Dr. Timberman, who was a delegate to the New York State Veterinary Association. Dr. Lusson reported that he could not get the time and place of meeting to which he was appointed.

An application for membership of Dr. C. S. McKenna was read by the secretary, and the same was referred to the Board of Trustees.

An Auditing Committee was appointed by the chair to audit bills, vouchers, etc. Drs. Benner, Lussen and Knight.

At this time a short recess was taken that the Board of Trustees and Auditing Committee might complete their work.

The Board of Trustees being prepared to report, Dr. C. S. McKenna was favorably recommended, whereupon he was elected to membership.

The board also presented the following in reference to Dr. Waugh's letter:

To the Pennsylvania State Veterinary Medical Association:—

We beg leave to report that we have had presented to us for consideration a letter from Dr. James A. Waugh, calling our attention to an advertisement in the *Spirit of the Times*, a sporting paper, dated December 3, 1893, by the Ontario Veterinary College, advertising for students for a term of three months, and that we deprecate the action of the Ontario Veterinary College, and recommend that this association censure the faculty of the said college for abbreviating the course of veterinary education.

The recommendations of the board were received. The Auditing Committee report, the treasurer's report and bills correct.

Dr. Zuill's paper being called for was read, entitled "Surgical Treatment of Lesions of the Hock," after which the chair stated that if there were no objections he would ask for the reading of the paper by Dr. E. Sturge on "Penetrant Cauterization in Treatment of Lameness for Ostitis," as both papers covered much of the same ground, and the discussion would then take place on both papers. There being no objections, Dr. Sturge read his paper. The discussion following proved very interesting, critical and conflicting, and was participated in by Drs. John W. Adams, W. B. E. Miller, Harger, Pearson, Eves of Delaware; Martenet of Maryland; Sallade, Hoskins, Foelker and Allen.

At 1:15 P. M. adjourned for lunch.

The meeting reconvened at 2:30 P. M. The Board of Censors favorably recommended for membership Dr. C. S. McKenna, and on motion his election followed.

The chair then called attention to the fact that the Comitia Minora of the United States Veterinary Medical Association would shortly meet to determine upon a place of meeting for 1894. He had been importuned by many that this state and Philadelphia should be favored with this meeting, and it was open for further consideration by the members. Many of the

members strongly urged that the association take active steps to have the meeting for Philadelphia, and it was afterward moved and seconded and carried that the chair appoint a committee of three to draw up a suitable appeal, and to use their influence in winning the meeting for Philadelphia. The chair stated he would leave these appointments for his successor in office.

Dr. Miller then followed with his paper on "Castration," which, after reviewing the various methods, treated at length all the features connected with the performance of the operation with the animal standing. He also explained the method adopted by Farmer Miles in operating upon cryptorchids, and answered fully many public criticisms made of his results in so operating. The paper was discussed by Drs. Pearson, Harger, Zuill, Breisacher, and a motion offered by Dr. Pearson that a vote of thanks should be tendered Dr. Rogers for stimulating Dr. Miller to prepare the paper just read, and was carried.

Dr. S. J. J. Harger then gave a very interesting paper on "Atmospheric Air in the Veins," recording a list of carefully performed experiments with the results obtained.

This paper was discussed by Drs. Adams, Zuill and Breisacher.

The subject of "Transfusion of Blood," by Dr. W. G. Benner, was postponed until the September meeting.

Dr. E. Mayhew Michenew was absent, and no letter having been received by the secretary, there was no explanation of the absence of his paper.

Under Reports of the Cases, Dr. Jas. T. McAnulty reported an interesting case of fracture of the os-pedis.

The place for holding the semi-annual meeting was then considered, Harrisburg and Pittsburgh being named. A vote being taken, Harrisburg was chosen.

The retiring president then introduced the president-elect, Dr. Leonard Pearson. The latter, on taking the chair, very warmly thanked the members for the high honor they had just conferred.

The other officers-elect were severally introduced, and each accepted the new duties allotted them, after which a motion to adjourn prevailed.

ROBERT GLADFELTER, *Recording Secretary*.

MINUTES OF THE SIXTH ANNUAL MEETING OF THE IOWA STATE
VETERINARY MEDICAL ASSOCIATION.

SAVERY HOUSE, DES MOINES, IA.,

December 12, 1893.

3.30 P.M.—The meeting was called to order and Dr. T. A. Bowa, of Chariton, made president *pro-tem*. in the absence of the president and vice-president. Dr. Jno. E. Brown, of Oskaloosa was made secretary-treasurer *pro-tem*. in absence of Dr. Stewart.

Roll call found members present as follows: Drs. E. E. Sawyers, M. Stalker, G. F. Starkey, S. H. Bauman, G. J. Howell, A. B. Morse, W. B. Niles, W. H. Austin, T. A. Bown, J. E. Brown, J. O. Sincoke, C. A. Ashworth. Guests: Drs. E. G. Wheeler, A. H. McKeller, and E. H. Kingery.

The minutes of the preceding meeting were read and approved.

Letters were read from the following absent members, expressing "regrets" and best wishes for a successful meeting: President, F. H. P. Edwards; Secretaries-treasurers, S. Stewart, G. A. Johnson, M. E. Johnson, J. I. Gibson.

The treasurers report was next called for and read, the president appointed Drs. Sayers, Starkey and Austin to audit the accounts. The committee found the accounts correct and the report was accepted.

Dr. W. H. Austin was appointed to fill vacancy on board of censors.

The board of censors reported favorably on all applications for membership submitted.

Moved by Dr. Starkey that the secretary cast the ballot of the association in favor of each applicant was duly seconded and carried.

Secretary: Following the instructions, I cast the ballot for this association, which elects to membership the following named gentlemen: Drs. A. H. McKeller, Des Moines; S. H. Kingery, Custon; E. G. Wheeler, Pella; G. R. Rich, Fayette, and W. B. Lincoln, Orange City.

The secretary's report was called for and read as follows:

MR. PRESIDENT AND FELLOW MEMBERS:—It is with much pleasure that I acknowledge the generous co-operation and courtesy extended to me in the discharge of the duties of secretary for the past year, and I trust the effort put forth will prove helpful in the interests of our association, and will be fruitful in a successful meeting at this time. The list of papers promised and published in the programmes which were sent to all our members, guarantees an abundant supply of material for discussion. All who attend will no doubt feel grateful that it is their privilege to have a share in this most interesting and profitable gathering of our profession in Iowa.

It is with regret that I call attention to the fact that several of our active members, men who always delighted to attend, and who contributed with their pens and in discussion, to make past meetings interesting, have been called to fields of usefulness so far beyond the borders of Iowa that it is probable they will not often find it convenient to attend the meetings of this association. The mails are at their command and they ought to remain contributing members. In their present locations they will find it convenient to identify themselves with local associations, and will feel in duty bound to give such local societies financial support, and in consequence may be inclined to withdraw from our association if they are taxed to maintain its expenses. The thought suggests itself, would it not be well to elect those who desire to maintain some relation to this association, to honorary membership, or by resolution remit the dues of such non-resident members, and retain their names on our roster.

Should this association see fit to so change its constitution that persons who matriculate after the year 1895, and become graduates from veterinary colleges which do not require a reasonable entrance examination and a three years course of study should not be eligible to membership, the association would greatly aid in the good work for higher veterinary education started by the United States Veterinary Medical Association, and so heartily seconded by the Pennsylvania State Association. I feel sure the veterinarians of Iowa are in sympathy with this effort to elevate our profession, and would we not be derelict if we did not take an active part in this important movement. I am in favor of making such a change in our constitution.

There are several members on our list who do not reply to communications from your secretary, and are delinquent three or more years for dues. The secretary should be directed to suspend from the list such members if another and final notice did not bring a proper response.

Very respectfully submitted,

S. STEWART, *Secretary.*

Dr. Starkey: I move the report of the secretary be adopted.

Dr. Stalker: In seconding this motion, I want to call the

attention of this association to the fact that there are sections which should receive special attention and discussion. Carried.

It was then decided to read and act upon the report by section.

Dr. Stalker: I move that the section refering to honorary membership be refered to the board of censors, and that they report at a later session of this meeting. This motion was seconded by Dr. Kingery and carried.

Dr. Stalker: In regard to the requirements for membership, I never realized before how large a loop-hole there is. Section I, Article III of our by-laws says: "Applicants for membership must be graduates of legally authorized veterinary colleges." Colleges might, so far as our rules are concerned, grant diplomas to men who are not able to write their names, but who then would be eligible to membership.

Our danger, to-day, is not from the *quack*, but from graduates from inferior colleges. I am in favor of good wholesome legislation, not only from quackery, but from the graduates from inferior colleges. I think we should use our influence to elevate the profession to a higher standing, and this may be through higher education. This body might do its part by making a higher requirement from applicants for membership. It probably would be well to coincide with the U. S. V. M. A.

Dr. Kingery: I endorse Dr. Stalker's remarks. The veterinary profession through the country is represented largely by empirics who are entirely unqualified. Not only the empirics, but many so-called graduates spend most of their time in the saloons and billiard halls. Many of the veterinarians of Iowa have been practicing in the state for a number of years, and are graduates of a two year course. At that time it was the best they could do, now there are better facilities for obtaining a veterinary education and intending students should avail themselves of the opportunity.

Dr. Starkey: I am heartily in favor of what has been said. When I finished a three year course I felt I was none to well qualified to practice veterinary surgery. I think the matter of

character should also be taken into consideration; would favor a change of by-laws.

Dr. Bauman: I am heartily in favor of anything that will tend to elevate the profession.

Dr. Brown: This is a question of great importance. Most all of us are graduates from a two-year course, the best we could do at that time, for the best colleges we had only gave its students a two-year course. Now there are colleges that any one can get into and get through and come out with a diploma if they can put up the necessary money. The matriculation examination should be more strict.

Moved by Dr. Starkey and seconded by Dr. Austin, that the chair appoint a committee of six, with Dr. Stalker chairman, to prepare an amendment to Section 1 of Article III of our by-laws. Carried. The chair appointed Drs. Stalker, Brown, Howell, Kingery, Austin and Bauman on this committee.

In regard to that section of the secretary's report concerning the suspension of delinquent members, the secretary was instructed to write a personal letter to each delinquent member, endeavoring to collect all arrearages that the memberships might be retained.

Meeting adjourned for supper. Evening session 8.30 P.M.

Dr. Brown being somewhat indisposed, asked to be relieved of the responsibility of presiding, and Dr. Stalker was placed in the chair.

Dr. F. H. P. Edwards, president, finding it impossible to attend the meeting, had forwarded his address, which was read by the acting secretary and placed on file.

GENTLEMEN: On occasions like this it has been the custom of the presiding officer to present an address; it has also been the custom for the address to occupy much more time than was necessary, and cover ground that was intrusted to committees. Hence it has been the experience in the last four meetings of this association, that there has not been enough time left to do justice to the other items on the programme.

With this in view I intend to only utter a very few remarks; and I trust the example may be copied by the presiding officers in the future.

"What have we done to advance our profession and benefit our association in the year that is about to pass away?" is a question we must now ask ourselves. Some have fairly and honestly done their part; whilst others, I fear, it is too true, have

tried how little they could do, without actually doing anything ; yet we are all fretting because we don't get recognition and secure legislation. Have we each brought the name of an applicant that we wish to become a member of this association ; if not, let us each return home from this meeting with the determination that it shall not occur again ; and that at the next meeting we will bring at least one name, if not, more, to present to the meeting ; in this way we benefit our association and reflexly ourselves.

Another way, and to my mind, a very good way to get recognition, is to keep ourselves before the public a little more by writing to our local papers, correcting false ideas that appear from time to time in them concerning certain diseases of domestic animals, written not only by laymen but by medical doctors.

Before we can expect to be recognized we have a duty to perform to the general public. It is our duty to *lead*, not to follow ; not merely to be alongside of public opinion, but to lead it in such matters as professional training and general practice afford us facilities for forming advanced opinions.

The most threatening evil that I see to hinder us from advancing, not only in the minds of the public, but our own, is the alarming increase of two term schools. It is no uncommon occurrence for one of these schools only having been in existence a few months to graduate from one to a dozen students ; this gentlemen, is positively alarming, and it is our bounded duty to do, legitimately, all in our power to influence intending students to stay away from these Diploma Mills, where the matriculation examination consists of paying sixty to one hundred dollars. Others again, as a matter of form, have a matriculation examination where the questions set to students on entering, to test their general education, seem to be just about such as would indicate whether a man possessed sufficient knowledge and intelligence to understand and learn the science necessary to make a veterinary surgeon.

From what I have seen of successful candidates, it is certain a very low standard of proficiency is accepted by the examiners. I should fancy ten per cent. of marks must pass a man. And if I am right, this is unfair to the profession at which they aim.

I am calling your attention to what is one of our practical responsibilities.

We, as members of the profession are virtually interested in the quality of man we admit to our ranks.

With us, it ought to lay whether he will be a credit or discredit to us ; is he the kind of man who will add to our general knowledge, do justice to his client and honor the diploma by which we recognize him, and by which we recommend him to the public. How to remedy this great evil is hard to answer ; however, it is our duty from now on to think of it and bring it before the public in a legitimate way, so that intending veterinary students may be kept from entering such institutions.

But let us turn for a few moments and take a brighter view of our profession and see how we stand. Scientific men twenty years ago in this country were unknown. To-day in our schools and in practice, there are plenty of men, capable of themselves, undertaking an original piece of scientific research, and carrying it through, as no man could in the previous history of our profession, and as to practice, we have better practitioners than we ever had before. Rational treatment is now the prevailing rule, and we understand that if nature is given a chance there are better prospects for an animal's recovery.

As to social position may we not claim some advance? As the school board continues to do its work and cultivate the intelligence of this country. I hope the time will come when the social status of a man will not be judged by the state of his balance at the bank, but by the balance in his head.

Let us endeavor to keep up this progress that we have been making and with "onward" as our watchword, let us never stop until we secure the place that our profession justly entitles us to.

In conclusion, gentlemen, allow me to thank you most heartily for the honor conferred upon me; also for the assistance and courtesy shown me during my term of office as president of this association.

The committee on legislation reported progress through Dr. Stalker, who explained to the meeting some of the obstacles met with by the committee when they attempted to introduce their bill into the legislative bodies.

It was moved by Dr. Starkey and seconded by Dr. Bauman to continue the committee and that they be instructed to use their best judgment and efforts to effect suitable legislation. Carried.

Committee on Collective Statistics reported through the chairman Dr. G. F. Starkey, of Boon, Ia.

REPORT OF COMMITTEE ON COLLECTIVE STATISTICS.—During the year 63 cases were reported. This number was divided as follows: Specific ophthalmia, 9; cribbers, 4; ringbones, 10; bone spavin, 20; kicking, balking, etc., 20.

The ophthalmia cases were classified as follows: Age, 1 to 9 years. Sex: mares, 2; geldings, 7. Color: bays, 3; greys, 4; sorrel, 1; dun, 1.

Breed: Grade Percheron and Morgan, 1; Norman, 4; Clyde, 1; trotting and roadster, 3.

Age developed: 2d year, 2; 3d year, 2; 7th year, 3; 6th year, 1; 8th year, 1.

Sires in 7 cases are known to be sound; in 1 unsound and 1 unknown.

Dams in 7 cases known to be sound; in 2 unknown.

Grand-sires in 2 cases known to be sound; 1 unsound and 6 unknown.

Grand-dams in 2 cases known to be sound, 1 unsound and 6 unknown. The two mares produced foals subject to the same disease.

Cribbers: Four were recorded as follows: All light roadsters. Age, 4 to 15 years. Sex: mares, 2; entire, 1; gelding, 1.

Color: Sorrel, 1; roan, 1; bay, 1; brown, 1.

Breed: Unknown, 2; thoroughbred, 1; Morgan, 1.

Age developed: 5th year, 1 (while owner was buying cattle and left the horse standing for hours at gates and fences, when he became uneasy and acquired the habit); 6th year, 1; while suffering from a punctured wound in foot. Two unknown.

Sires: 1 cribbed; 1 did not; 2 unknown.

Dams: 2 unknown, 1 unaddicted, 1 produced foals, part of which cribbed before they were 1 year old.

Cases of ringbone, 10.

Sex: Mares, 5; geldings, 4; stallions, 1.

Color: Greys, 5; bays, 5.

Breed: Percheron, 5; Belgian, 2; Clydes, 2; pony, 1.

Age developed: 1st year, 1 (soon after foaling); 3d year, 2; 2d year, 4th year, 6th year, 7th year, 8th year, 10th year and 13th year; each 1.

Sires: 5 unknown, 4 sound, 1 affected.

Dams: 1 effected, 4 unknown, 5 sound.

Grand sires: 1 affected, 9 unknown.

The stallion produced one defective foal, one dam produced one defective foal, and another dam produced five foals, all of which had ringbones on each hind foot.

Bone spavin (20) cases: 13 heavy and 7 light horses.

Sex: Males, 10; females, 10.

Color: Bays, 14; greys, 4; sorrels, 2.

Breed: 5 unknown, French-Canadian, 1; Morgans, 3; Clyde, 2; Percherons, 3; Cleveland bay, 1; trotting, 5.

Age developed: 5th year, 6; 3d year and 9th year, each 1; 2d year, 6th year, 7th year, 8th year, and 11th year, each 2; unknown, 1.

Sires: 10 sound; 10 unknown.

Dams: 10 unknown, 8 sound, 2 unsound.

Grand sires: 3 sound, 17 unknown.

Grand sires: 1 unsound, 14 unknown, 5 sound.

In 3 cases other offsprings were known to be affected. Some of the spavins were traceable to direct injury.

The 20 cases of kicking, balking, etc., were well distributed among all the popular breeds, and were of various ages, colors and temperament (mostly nervous) and came by their faults mostly through an unbroken line of like ancestry.

The committee complained of having received very little encouragement from the members in the way of filling and returning the blank sent out. Comparatively few reports were received, but it was decided to continue the office through another year and make an extra effort to collect more notes. Quite a discussion followed on the subject of "Specific Ophthalmia."

Dr. Brown has seen many cases, but has been unable to satisfactorily trace the ancestry. He thinks it due to heredity—that it may be carried through several generations without making its appearance and then develop. Following a motion by Dr. Bauman, the report of the committee was received.

Dr. G. A. Johnson, of Sioux City offered the following resolution.

Whereas, the Hon. J. Sterling Morton, secretary of agriculture has recommended that the appointment of veterinarians in the Bureau of Animal Industry be made on the merit system under the control of the civil-service commission. *Therefore, be it resolved*: That we the members of the I. S. V. M. A. do heartily commend the Hon. Secretary of Agriculture for this important recognition of the veterinary profession.

Be it resolved: That a copy of the resolution be recorded in the proceedings of this meeting, and a copy forwarded to the Hon. Secretary of Agriculture, and each of Iowa's representatives in Congress.

This was adopted and the secretary instructed to follow out the meaning thereof.

Dr. L. A. Thomas, of Atlantic, Iowa, being unable to attend the meeting, had forwarded his paper on "Modern Advances in Scientific Surgery,"* which was read by the acting secretary.

Dr. Bauman: I should like to ask what sort of adhesive plaster can be made to hold—have tried various kinds but to no good effect.

Dr. Kingery: I have used kangaroo tendon sutures to great advantage, also metallic hooks.

Dr. Brown reported a case of ventral hernia (very large, 2½ to 3 inches, opening in abdominal walls). Used cat-gut suture to secure the edges of the walls, for all but one stitch; running short of the gut suture, silk was substituted for this one stitch; wound healed nicely, except a fistula formed where this one silk suture was used. Adjourned for the night.

SECOND DAY—November 13.

MORNING SESSION, 9 A.M.

After the meeting was called to order, Dr. Starkey, of Boon, Iowa, read a paper on "Actinomycosis."†

Dr. Kingery: I should like to ask the essayist if he consid-

* The papers will be published in later issues.

† See following issue.

ers the germ an invading one, or are the spores too large to be carried in the circulation.

Dr. Starkey: I believe the spores cannot live in the circulation, it is generally only the superficial structures affected.

Dr. Kingery does not consider the meat of animals affected fit for human consumption. Saw one case in which an enlargement had been dissected away from the throat, and seemingly made a complete recovery—was sold, butchered, and condemned by the meat inspector. The lungs, liver, and other organs were found diseased, and microscopic examination realized actinomycosis.

Dr. Stalker: I would ask Dr. Starkey if he has had much experience with the potas. iodide treatment, where the tongue was indurated, swollen and hanging out of the mouth.

Dr. Starkey: Yes; for example, one case in which the tissues were thus affected and fetid, mouth full of grass, unable to get it up or down, tongue inflamed and swollen, was fed on slop and ground food; received about three ounces of iodide of potassium, and made a good recovery—other cases similar.

Dr. Brown has had good success in treating these cases, where the bone is not diseased. Uses the knife freely, then cauterizes the wound with hot iron and gives the iodide of potassium. Where the osseous structures are involved, treatment has been of little use. Sometimes succeeded in stopping the sloughing, but the enlargement remains. Thinks the true source of infection has not yet been discovered.

Dr. Bauman: For a number of years Dubuque was the dumping ground for the diseased cattle in transit to Chicago, and lumpy jaw cattle in a great measure was the meat supply to the city until the meat inspector got onto the game of the shippers and butchers, but no evil effects apparently came from the consumption of such food.

Dr. Stalker: What has location to do with the disease?

Dr. Starkey: Cattle in sections of short pasturage, where the cattle reach through barb-wire fences to graze, are more apt to be affected and the disease is more superficial.

Dr. Bauman, of Dubuque, read a paper on "Punctured Wounds."*

Dr. Nile: Was there any stricture remaining in the œsophagus you speak of in your paper?

Dr. Bauman: No; there was no trouble of that kind.

Dr. Bown reported a case of an opening in the œsophageal wall of a mare, midway between angle of jaw and shoulder, resulting presumably from an external injury. When cut down on, a considerable amount of chewed food had found its way through the opening in the walls of the œsophagus into the adjacent tissue. It was kept well cleaned with antiseptic applications and gradually healed without other surgical interference. A portion of the food continued to find its way through the opening for some time, but finally closed up entirely.

Dr. Brown reported a case of breaking down of wall of œsophagus, the result of an abscess in strangles. Food had worked its way through the opening until such a quantity had collected that nothing could pass, and violent symptoms of choking were present. After cutting down and removing the food the parts were thoroughly cleaned with antiseptic wash, and the divided walls drawn together by means of silk suture passed through skin, muscles and divided edges of the wall of œsophagus, from above to below, and quilled at each side. The patient was fed on gruel for several weeks and made a good recovery.

Dr. Niles: I want to emphasize the importance of making a good big opening in the case of punctures in the feet; thoroughly disinfecting with carbolic acid, and then plugging the wound. I practiced for some time in the South, where tetanus is much more prevalent than in the northern climate, and found very few cases follow that mode of treatment.

Dr. Brown: What strength of carbolic acid do you use, and how often do you dress the wound?

Dr. Niles: I use the carbolic acid at least one-half strength.

* See following issue.

—one-half to full strength—sufficient to turn the tissues white. Sometimes one packing is sufficient; sometimes it will suppurate a little and it becomes necessary to dress the case again.

Dr. Austin uses carbolic acid full strength, then plugs up opening with equal parts of calomel and pulverized bloodroot.

The discussion here drifted to the use of slings which was quite animated—almost every member taking a hand, and served to show that slings are a “back number” in veterinary practice in Iowa.

Meeting adjourned for dinner.

AFTERNOON SESSION, 2 P. M.

As some of the members must leave the city early in the afternoon, it was decided at this point to take up the election of officers for the following year, which resulted in the election of Dr. W. B. Niles for president, Dr. E. E. Sayers for 1st vice-president, Dr. T. A. Bown for 2d vice-president, Dr. Jno. E. Brown for secretary and treasurer.

Board of Censors: Drs. G. F. Starkey, M. Stalker, and T. A. Bown. President appointed Drs. G. F. Starkey, A. B. Morse, and T. A. Bown, Committee on Collective Statistics.

The board of censors made their report on honorary membership, which was adopted as follows:

We, the Board of Censors of the I. S. V. M. A., do hereby recommend for honorary membership the following names, who are now non-residents of this State, but in time past have been valuable contributors to its meetings: Dr. T. S. Butler, Agre, Col.; Dr. C. A. Carey, Auburn, Ala.; Dr. E. P. Niles, Blacksburg, Va.; Dr. J. C. Norton, Phoenix, Ariz.; Dr. M. H. Reynolds, St. Anthony Park, Minn.; Dr. S. Stewart, Kansas City, Kan. And further recommend that they only be retained on our roll of honorary membership so long as they remain non-residents of Iowa, and should they return to the State will again be received as active members. Signed, Jno. E. Brown, E. E. Sayers, W. H. Austin, Board of Censors.

Committee on change of by-laws, made the following report:

We, the undersigned, hereby give notice that the following amendment to Section 1 of Article III of the Constitution will be offered at the annual meeting of the I. S. V. M. A. in 1894, so as to read : Applicants for membership must be graduates of legally authorized veterinary colleges in good standing, to be passed upon by the board of censors and reported to the society for final action. Signed: M. Stalker, Jno. E. Brown, S. H. Kingery, S. H. Bauman, W. H. Austin, G. J. Howell.

It was moved and duly seconded that the I. S. V. M. A. should meet during the fall of 1894 at Des Moines, exact date to be fixed by the president and secretary. Moved by Dr. Starkey and seconded by Dr. Stalker, that the association should meet all the necessary expenses, both past and future, of the committee on legislation while engaged in the duties of the office. Carried.

It was moved by Dr. Stalker and duly seconded, that the president and secretary correspond with the comita minora of the U. S. V. M. A. and endeavor to secure the meeting of that body in Iowa in 1895. Carried.

Moved and seconded that the papers and notes of this meeting be sent to the AMERICAN VETERINARY REVIEW for publication, on condition that the editor would furnish to each member of the association a reprint thereof. Carried.

The paper by Dr. Jno. E. Brown on "Practical Uses of Cocaine," was read and quite thoroughly discussed.

Dr. G. A. Johnson, of Sioux City, not being present to defend his paper on "Pseudo Rabies in Cattle," it was decided to omit the reading but have same published with the proceedings of the meeting.†

Dr. W. B. Niles read a very interesting paper entitled "A Bacteriological Study of Equine Fistulæ,"‡ by Dr. C. M. Day, but owing to the limited time no discussion followed.

* See following issue.

† See following issue.

‡ See following issue.

On account of the resignation of Dr. Thomas to act on the legislative committee, the president appointed as legislative committee Drs. M. Stalker, J. E. Brown, and G. A. Johnson. On motion of Dr. Brown, duly seconded and carried, that the association hold its next annual meeting in Des Moines during the fall of 1894, exact date to be fixed by the president and secretary. On motion the meeting adjourned.

JNO. E. BROWN, *Secretary, pro-tem.*

OBITUARY.

JOHN S. SAUNDERS, D.V.S.

The Massachusetts Veterinary Medical Association has to regret her first loss since her organization; the United States Association has lost a faithful member; the American Veterinary College has to sorrow for another death in her alumni. John S. Saunders died on March 20th, from hæmorrhage of the lungs, after an illness of one week and a day, within a few days of being 40 years old, thus confirming a kind of superstition of his, that he would not live to reach that age.

We all knew him, all liked him. He was friendly to all, and kind to every one who approached him. His place in our meeting may remain empty, but our thoughts will always fill it with the friendly smile and good face of him who now rests in peace.

Following is the report of a committee on resolutions appointed at a special meeting of the Massachusetts Veterinary Association, April 4, 1894.

Whereas, death has removed from among us our beloved member, Dr. John S. Saunders, and

Whereas, we feel deeply, the loss sustained by us in the early demise of one whom we all have respected as a professional brother, and loved as a genial companion.

Be it Resolved, that we hereby express our appreciation of his sterling qualities. Honesty, charity, good fellowship, were the traits of his character. Devoted to his profession, an untiring worker, charitable to his colleagues, speaking ill of no man, his example is one for us all to emulate.

By his death our association loses a valued member, the veterinary profession an ardent worker, the community an honest citizen.

Be it Resolved, that a copy of these resolutions be spread upon the records of our association, also forwarded to the family of the deceased, and to the veterinary journals for publication.

Signed,

L. H. HOWARD,
AUSTIN PETERS,
JOS. H. STICKNEY,
F. H. OSGOOD,
H. P. ROGERS,
A. MARSHALL,

} Committee.

CORRESPONDENCE.

March 15, 1894.

"VETERINARY EXHIBITS AT THE WORLD'S COLUMBIAN EXHIBITION."

PROF. A. LIAUTARD, M.D.V.M.:

Editor of the AMERICAN VETERINARY REVIEW:

MY DEAR SIR: I notice in this month's issue of your paper, a communication from W. L. Williams, entitled "Veterinary Exhibits at the World's Columbian Exhibition," and as the critic does not tell the whole truth in some particulars, and misrepresents things (I believe accidentally) in others, I desire in a friendly way to point out the errors as far as I am able. In the first place he says in substance that Illinois was the only State to make a veterinary exhibit from its agricultural college, but if the gentleman had examined section I, column V—6 in the Liberal Arts Building, he would have found in the veterinary space of the Michigan Agricultural College exhibit natural skeletons (ones in which the bones are held together by their natural ligaments) of the horse, cow, sheep and hog; one horse dissected and mounted in the standing attitude, showing the deep-seated muscles on one side and the more superficial ones on the other, while those parts affected in ordinary diseases, curb, bog-spavin and the like, were made as prominent as circumstances would permit. (In the very hot weather this specimen began to show signs of decomposition, so we deemed it prudent and best to dispose of it before the Fair was over.) There were also one hundred and twenty sketches of dissected sections of the horse, some done in oil, but most of them in

pencil, ten models of horses' teeth made from moulds that were obtained from living animals of the Cleveland bay breed, whose ages were matters of record; they illustrated the changes in the teeth, from one year old upwards, besides seven other models, all taken from accurate moulds of the original subjects, and illustrating various interesting features.

The above exhibits were one and all prepared by students under my direction, assisted by a demonstrator.

In addition we had some ten or fifteen photographs illustrating veterinary work, and our facilities for teaching it in a variety of ways.

I heard that several other colleges had veterinary exhibits, but I did not see them, however, I was always so much engaged in various public ways when at the Fair that I found very little time to look around.

When W. L. Williams describes the co-operative exhibit of the agricultural colleges and experiment stations, he says that there were Duzone models of horses teeth amongst other things, this of course was a mistake, but how it was made I cannot conceive, for each and every model had a label under it, and a large card was attached to the case stating that the models were made by the students of the Michigan Agricultural College, they were duplicates of the ones already mentioned in the other exhibit which I was responsible for (our boys should feel rather flattered when they learn that their work was mistaken for that of the far-famed French firm).

The half dozen actinomycotic jaws of cattle, etc., appear to have been treated in the same way as the teeth, and the labels were overlooked. They were prepared by Prof. Mayo of the Kansas Experiment Station, and certainly illustrated many features of this much-talked of disease in a very interesting and scientific manner. I also thought the pathological specimens contributed by Prof. Hinebauch, of the North Dakota Experiment Station, illustrated the points they were intended to, and that they were valuable specimens. The other articles mentioned were there, as were also some others not noticed by Williams;

of the latter the interesting writings of Liautard, Law, Smith, McEachran, Duncan, American veterinarians, and many others too numerous to mention were to be found in the case devoted to veterinary literature. There was also an interesting specimen showing the effect of a dehorning fluid applied to one side of the head on which all trace of the horn core was obliterated, while on the side which was not treated with the fluid, the horn core was fully developed, also five very nicely mounted heads of sheep, showing the changes which occur in the teeth from one to five years old.

I do not quite understand what Professor Williams means to insinuate by the sweeping assertion that the examination of facts will show that the teaching of Veterinary science in agricultural colleges is not nearly what it should be, either in scope or quality, so will not reply to that paragraph at this time.

We are also informed that the task of superintending this exhibit went a begging; well as far as I am concerned this was not my fault, it is true that in the spring of 1891, I was requested by Dr. Armsby, chairman of the committee on co-operative exhibit at the World's Fair, to take charge of the veterinary alcove, but owing to so many veterinary duties requiring my attention at that time, I felt myself in duty bound to decline the honor. I afterwards learned with very great pleasure that Professor Williams, of Purdue University had accepted the position, and in course of time I received a letter from him asking me what our college would contribute towards the exhibit, and also doing me the honor of asking for suggestions as to how the work should be carried on. My reply in substance was, that at that time I was not in a position to offer anything (I had no authority at that early date), but made some suggestions as to how I thought the work should be advanced, and that was the last I heard of the exhibit until the close of 1892, when I was grieved to learn that Williams had abandoned the position, and I was once more asked to take charge of the work, I consented, and to make a long story short, I commenced operation in January, 1893, with what success is for others to say.

I can hardly close this without expressing my extreme regret that my brief correspondence with Professor Williams should have brought the statement from him that "Even Dr. Grange declined to contribute anything whatever to this exhibit until he had been made superintendent of it," a sentence which according to my interpretation places me in the light of a most contemptible narrow-minded creature.

Trusting that you may find space for these corrections in the next issue of your valuable journal.

I am, my dear sir,

Yours most respectfully,

E. A. A. GRANGE, V.S.

VETERINARIAN WANTED.

CLINTON, N. J., April 12, 1894.

DEAR SIR: Is there any good veterinary about to graduate from your college that would like a *good* place to locate. If so, will you tell him to come and see us or send us his address, so we can write to him, as there is a good opening here for a first class doctor and hope you can send us one.

Yours,

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